MANUAL AND RECORD

DESIGNED FOR THE USE OF FARMERS.

EMBRACING RULED AND PRINTED FORMS FOR A RECORD IN DETAIL OF EVERY BUSINESS TRANSACTION, AND ARRANGED FOR ANY SYSTEM OF FARMING IN ANY LOCALITY AND FOR FARMS OF ANY EXTENT.

CONVENIENTLY CLASSIFIED AND METHODICALLY ARRANGED.

INCLUDING A VETERINARY DEPARTMENT,

EXPLAINING CLEARLY AND CONCISELY THE

CAUSES, SYMPTOMS, AND TREATMENT OF DISEASES OF HORSES, CATTLE, SHEEP, SWINE AND POULTRY.

TO WHICH IS ADDED DEPARTMENTS OF

AGRICULTURE, ARCHITECTURE, FACTS AND FIGURES.

TABULATED FOR QUICK AND READY REFERENCE.

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:: :: DISEASES OF :: ::

-- DOMESTIC ANIMALS --

CAUSES, SYMPTOMS AND TREATMENT.

THE HORSE.

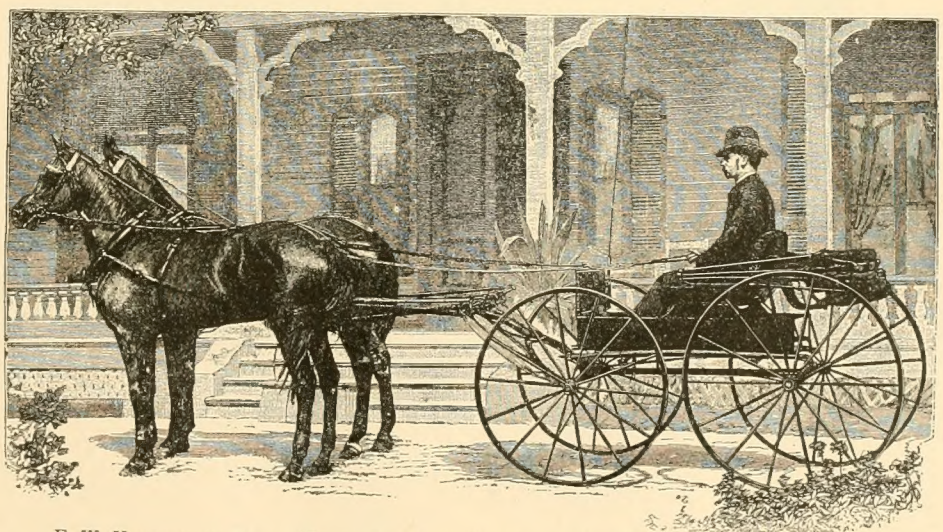
GENERAL CONSTITUTIONAL DISEASES.

DISTEMPER, OR STRANGLES.

CAUSES.—This disease is an eruptive fever, a specific blood-poison, peculiar to the horse, and is contagious. Changes of location and a morbid condition of the system will induce this disease in young colts and horses under three years old. Is more common in cold, damp weather.

SYMPTOMS.—The first indications are nervous prostration and loss of appetite, coughing, sore throat, discharge from nose and heavy breathing. The poison in the blood produces abscesses about the throat; sometimes a hard tumor grows between the branches of the lower jaw, or abscesses may appear on other parts of the body. In some cases the poison remains diffused without breaking out as indicated, the bowels are costive and urine scanty.

TREATMENT.—Avoid bleeding or purging. If bowels are constipated give injections. Good nursing is most important. Keep up the strength with nourishing food. Feed with boiled barley, oats and sliced carrots. Give him a warm, dry place and plenty of fresh air, avoiding drafts. Apply hot flaxseed meal poultices to the swollen parts. When the tumor is stubborn trim the hair and apply blister of one part powdered Spanish fly, mixed with six parts of hog's lard. Give for a tonic, morning and evening, one dram of tincture of iron and one dram of tincture of gentian.



F. W. VANDERBILT'S TEAM, "EARLY ROSE" AND "ALDINE." THE FASTEST TEAM IN THE WORLD.

INFLUENZA.

CAUSES.—A blood disease, usually attacking young horses in the spring and fall. This is also known as an epizoötic disease, and sometimes called "Pink Eye."

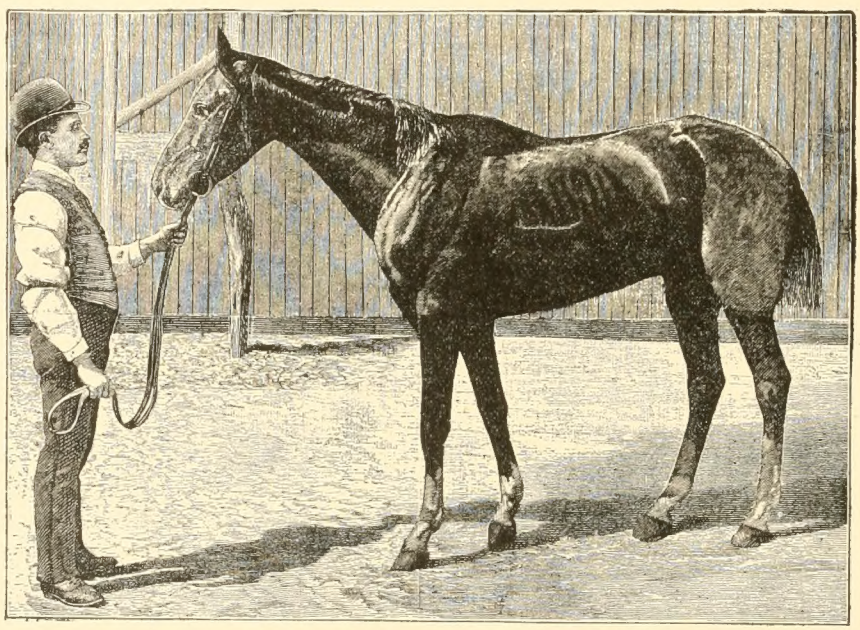
SYMPTOMS.—It assumes a variety of forms, catarrh being more common. The first signs noticed are dullness, loss of appetite, hanging head, staggering from weakness, rapid breathing and quickened pulse, coughing, constipation, colic, scanty and high-colored urine, large swelling of the legs, which are painful to the touch.

TREATMENT.—As in case of Distemper, good nursing is most important. A clean, dry well-ventilated stable; cover with blankets and bandage the legs and give plenty of bedding. Oats and bran equal parts, mixed and steamed, is the best food. To relieve colic give one pint raw linseed oil every six hours, or immediate relief may be obtained by giving injections of lukewarm soapsuds. If much cough, give three drams of tincture of belladonna, one dram of camphor, one ounce of sweet spirits of nitre, in half a pint of cold water, two or three times a day. Keep a pail of water in manger. Apply liniment of equal parts turpentine, linseed oil and ammonia to the throat till slightly blistered, and hot water to the chest. Give twice a day a tonic of one dram carbonate of iron and two drams of powdered gentian, mixed with the feed.

GLANDERS AND FARCY.

CAUSES.—These are twins, being different forms of the same disease, either of which usually ends with both forms fully developed. It is contagious only by inoculation of the virus discharged from ulcers, and usually contracted by rubbing the nose on a post or a trough where a horse with the disease has stood. The disease is caused by damp, foul air, bad food or privation.

SYMPTOMS.—It is called Farcy when it manifests itself in large corded swellings on the lymphatic glands and other tissues of the body. These tumors, which are called "Farcy Buds," suppurate and discharge unhealthy-looking matter. Glanders affects the nose, also the throat and lungs. Ulcers form in the nostrils, from which there is a thick discharge. There are two forms of this disease, acute and chronic. The symptoms are the same, the only difference consisting in the time required for the disease to run its course.



"SALVATOR"—ONE OF THE LARGEST WINNERS OF 1889.

TREATMENT.—As the disease is incurable and is contagious to man as well as beast the horse should be killed and buried as soon as it is diagnosed satisfactorily. When there are any indications of this disease, separate from other animals and await developments. Any treatment prescribed would only postpone the fatal termination of the disease.

RHEUMATISM.

CAUSES.—It is occasioned by exposure to cold by cooling off too rapidly after becoming heated. Easily prevented by blanketing and by avoiding drafts and dampness.

SYMPTOMS.—The tendons and ligaments of the body and limbs are affected, attended by heat, swelling, pain and lameness changing from one joint to another. The parts usually affected are the shoulders, hips, fetlocks and knees.

TREATMENT.—Bandage the legs with flannel and keep the body warm and comfortable. Apply as a liniment equal parts liquor ammonia, tincture arnica, tincture opium diluted in three parts water.

DISEASES OF THE NERVOUS SYSTEM.

INFLAMMATION OF THE BRAIN.

CAUSES.—Results almost invariably from concussion, exposure to cold or dampness.

SYMPTOMS.—Delirium and fever followed by great prostration. The eyes bloodshot, mucous membranes red, rapid pulse, breath loud and hard, loss of appetite and constipation.

TREATMENT.—Apply chopped ice or cold water to the head continuously. When the fever subsides apply blisters to the upper part of the head. One ounce of aloes, twenty drops of croton oil, and two drams each of nitre and ginger, made into two balls with flaxseed meal and treacle. Inject blood-warm soap-suds. Let the horse be loose in a well-bedded, cool stable. Bromide of potassium in doses of two drams every three hours.

MEGRIMS, OR VERTIGO,

is a milder form of apoplexy.

CAUSES.—May result from over-exertion in hot weather, or from a collar fitting too tightly, causing a rush of blood to the head.

SYMPTOMS.—Twitching of the neck, throwing up of head, full veins of the neck and head, unsteady gait, and staggering.

TREATMENT.—The horse should be at once unharnessed and cold water dashed on the head. Avoid the usual but useless and dangerous habit of bleeding.

STAGGERS.

CAUSES.—This is a stupid condition, resulting from over-feeding on coarse, bulky diet.

SYMPTOMS.—Torpid bowels, scanty, highly-colored urine, slow breathing. The horse is usually found standing in a stupor, perhaps with his mouth full of food, indifferent to anything around him. Will stand with his head pressed against a wall; if made to move, will stagger; cramps and delirium may follow.

TREATMENT.—Give no food and but little water. Give frequent injections of soft soap and warm water. Give walking exercise. A dose of the medicine prescribed for inflammation of the brain should be given, with frequent injections per rectum. Setons should be applied to the neck and strong hartshorn liniment to spine and limbs. Smear on the root of the tongue, three times a day, physic composed of 15 grains of powdered nux vomica, one dram of carbonate of iron, 3 drams of powdered gentian root, mixed with treacle. Do not bleed on any account.

SUNSTROKE.

CAUSES.—The heat of the sun or over-exertion in hot weather, more common in large cities.

SYMPTOMS.—The horse will become weak and stupid, will stagger and breathe hard. Perspiration will cease and the body become dry and hot. He will become unconscious and death may ensue within an hour or two unless relief is obtained.

TREATMENT.—On first indications stop in a shade, remove harness and apply cold water to the head. Immediately wrap the body and legs with blankets and pour on hot water for the purpose of bringing the heat to the surface. If perspiration is re-established, the horse will soon recover. Never throw cold water over the body, nor resort to the antiquated method of bleeding. If it leaves him weak with unsteady gait, apply strong hartshorn liniment to the limbs with vigorous rubbing, and Spanish fly blister to the sides of the neck. Injections per rectum of two ounces of aqua ammonia, mixed with one pint of raw linseed oil. If the pulse fail, two-dram doses of carbonate of ammonia in water, or two-ounce doses of whisky in half a pint of water. If the convulsions prevail, one-half ounce of bromide of potassium or one-half ounce of chloral hydrate.

PARALYSIS.

CAUSES.—Straining of the back is the most common cause. Or it may be produced by blows or bruises or by severe pressure of the halter.

SYMPTOMS.—Difficulty in drinking as well as chewing food. In paralysis of the hinder parts the animal lies in a helpless condition. The part affected is without sensation. If but one side is paralyzed, the horse drags his legs.

TREATMENT.—Give ten to fifteen-grain doses of nux vomica twice daily. If unable to stand, make him a comfortable bed and turn each day. Apply Spanish fly blisters over the part affected after clipping the hair close; or, relief may be obtained by thoroughly rubbing with a strong liniment composed of one part each of arnica, ammonia, turpentine, opium, alcohol, to three parts water.

LOCKJAW.

CAUSES.—There are two forms. The idiopathic, the milder form, arises from exposure to cold from overheating, or from derangement of the digestive organs. The traumatic is caused by wounds or other injuries, especially of the joints or feet. Stepping on nails is the most common cause.

SYMPTOMS.—Difficulty in swallowing, respirations rapid, stiff neck and ears, hard muscles, profuse perspiration, swelling of the neck. The jaws are swollen, and usually locked tight within twelve hours. The whole body becomes affected, eyes fixed, saliva flows continuously from the mouth, bowels costive, urine scanty, no appetite, great thirst, but drinks with difficulty.

TREATMENT.—If the attack is severe and is caused by a wound, it is incurable. The animal should be killed and thus saved from suffering. But if the case is mild, remove him to a cool, quiet stable; apply a linseed poultice to the wound. Give, without delay, a dose composed of one ounce of powdered aloes, and two drams each of nitre and ginger, made into a ball, and to keep the bowels open, place between the back teeth, once a day, one dram of solid extract of belladonna mixed with half a dram of podophyllin. Apply blankets wrung out of hot water over the body. Fresh cold water and thin oatmeal gruel should be kept handy. The horse should be kept very quiet. If this treatment fails, inject into the mouth, three times a day, dilute prussic acid, first day fifteen drops, increasing five drops each day, till you reach one hundred. Under no circumstances resort to bleeding or blistering.

SPINAL MENINGITIS.

CAUSES.—This disease results from overcrowding in stables, poor ventilation, heavy feeding and insufficient exercise.

SYMPTOMS.—Excitement, twitching of muscles of neck and head, rapid breathing, quick pulse and profuse perspiration, cramps and convulsions, followed by blindness and deafness.

TREATMENT.—Apply to the back and loins a continuous stream of cold water, or ice, follow with blisters of Spanish fly. The horse should be made comfortable and turned over three or four times a day. The following dose, morning and evening, may prove useful: forty drops of a mixture composed of one grain of atropia, ten drops of diluted sulphuric acid and eight ounces of water. Give a strong purgative and frequent injections of warm soapsuds. If the urine is stubborn, it should be withdrawn with a catheter. Give three times a day three drams bromide of potash diluted with two parts water.

DISEASES OF THE RESPIRATORY ORGANS.

CATARRH, OR COMMON COLD.

CAUSES.—Exposure to snow and rain storms and cold drafts of air, neglecting to dry the body thoroughly after washing, or allowing to stand after vigorous exercise without covering with blanket.

SYMPTOMS.—Loss of appetite, redness of nose and eyes, watery discharge of mucous at first, which in a day or two becomes yellow. Dullness, coughing, sneezing, rapid pulse and breathing, known as nasal gleet when it becomes chronic.

TREATMENT.—Place in a cool, well ventilated stable, put on a blanket and apply friction to the legs. Give soft feed. Give twice each day a teaspoonful of saltpetre. If the throat is sore, apply once a day, until blistered, equal parts turpentine, linseed oil and ammonia.

NASAL GLEET.

CAUSES.—The usual result of neglected or obstinate catarrh.

SYMPTOMS.—Discharge from one or both nostrils of a slimy yellowish and offensive matter. Frequent snorting, and coughing. Appetite uncertain. The general health is not seriously affected.

TREATMENT.—Inject into the nose, twice a day, a solution of one dram carbolic acid to a half pint of water. Give once a day, in the feed, one-half dram each of powdered sulphate of zinc, and sulphate of copper, three drams of powdered gentian root mixed with flaxseed meal.

SORE THROAT, OR LARYNGITIS.

CAUSES.—It results from exposure. Often accompanies catarrh or nasal gleet.

SYMPTOMS.—Swelling inside or outside of the throat, tender to the touch, dry and painful; cough becomes loose and rattling, after a few days breathing and pulse rapid. Discharge from the nose. Great difficulty in swallowing, the water when drinking frequently coming back through the nostrils.

TREATMENT.—Place the horse in a cool stable, avoiding drafts, clothe warmly. The head may be steamed, or rub the throat thoroughly with mustard and lard, and then wrap well with woolen rag; or warm poultices of linseed and bran meal may be applied to the throat.

BRONCHITIS.

CAUSES.—An affection of the windpipe, and bronchial tubes, and often reaches the lungs. Generally a sequel of sore throat, and produced by the same causes.

SYMPTOMS.—Are similar to sore throat. The animal dull, great thirst, loss of appetite, imperfect circulation, indicated by cold ears and legs

TREATMENT.—Follow treatment prescribed for sore throat. If there is fever, give six doses, every two hours each, of ten drops of tincture of aconite and plenty of fresh cold water.

CONGESTION OF LUNGS,

CAUSES.—Severe exertions, hard running, after several days or weeks of inaction or exposure to sudden and severe cold. Severe attack almost invariably followed by inflammation of the lungs.

SYMPTOMS.—Quick, loud breathing, wide nostrils, eyes bloodshot, and nose of deep red or blue color. Legs cold, sweating; the horse looks to be in great pain. Pulse faint, but quick.

TREATMENT.—Remove harness or anything which interferes with breathing. Remove to a cool stable, fresh air. Give strong stimulants, 2 ounces each of aromatic spirit of ammonia and tincture of ginger in half pint of water, repeated every hour. Apply whisky or alcohol, with equal parts of water, with friction, to the limbs. A blanket wrung out of very hot water will be useful. Give frequent warm injections per rectum.

INFLAMMATION OF THE LUNGS

CAUSES.—Inflammation is generally the sequel of congestion. Is sometimes combined with Bronchitis.

SYMPTOMS.—Loss of spirits, a rush of blood to the lungs, a chill followed by fever, full pulse, quick breathing 25 to 30 respirations per minute, hot and clammy mouth. Breathing changes to panting, nostrils wide, usually no cough, loss of appetite, urine scanty and high colored. Ears and legs cold, body hot. By applying the ear to the side a rough grating sound of the air in passing over the inflamed portion of the lungs can be heard.

TREATMENT.—Follow treatment prescribed for sore throat, bandage legs. Frequent warm water injections. Give tincture of aconite root, ten drops every two hours, mustard poultice to chest.

After aconite, give, every three hours, 1 ounce each of aromatic spirits of ammonia and sweet spirits of nitre in one-half pint of cold water. Plenty of fresh water and soft feed. If convenient separate him from other horses.

PLEURISY.

CAUSES.—Inflammation of the membrane called the pleura, which lines the inside of the chest and covers the lungs. If accompanied by Pneumonia it is called Pleuro-Pneumonia, often is caused by exposure to cold or wet, especially by drafts in stable when the horse comes in heated by work.

SYMPTOMS.—Much resemble those of inflammation of the lungs. A chill followed by fever. Breathing rapid; short, painful cough. Pressure with finger between the ribs causes the animal pain. Pulse 50 to 70 per minute, loss of appetite. Ridge along the lower edges of the ribs.

TREATMENT.—Same as sore throat and for inflammation of the lungs. Give, on the third day, a laxative, 4 drams of aloes, one-half dram of podophyllin, and 3 drams of nitre, made into a ball. Give, morning and evening, for two days, 1 scruple of powdered digitalis and one-half ounce each of nitre and powdered juniper berries. Feed lightly. Give for a tonic, twice each day, 1 dram of tincture of gentian and 1 dram of tincture of iron.

HEAVES OR BROKEN WIND.

CAUSES.—Feeding on dry, dusty hay; over-exertion on a full stomach. The usual cause is rapid driving (especially after being kept in stable several days without exercise), and if kept up, a rupture of the lung tissue may be the result.

SYMPTOMS.—Dry, hacking cough, irregular and difficult breathing, and jerking of the flanks. A wheezing sound is heard in the lungs by placing the ear against the side.

TREATMENT.—It is incurable, but may be relieved by giving nutritive food in small bulk; cut-hay of the best quality mixed with oats and water. Avoid timothy hay or any dry, dusty feed. Slightly wet everything he eats. Give, once a day for a week, in steamed or sloppy food, 2 ounces of flaxseed meal and 2 ounces of powdered lobelia seed. Discontinue a week and then repeat.

THICK WIND.

CAUSES.—When the mucous membrane of the windpipe thickens, hard and labored breathing follows. It is generally caused by the animal having suffered from repeated bronchitis or inflammation of the lungs.

SYMPTOMS.—The breathing is short and fast, particularly when violently exercised, or in heavy or up-hill work. Cough short and hacking, or dry.

TREATMENT.—This disease is generally pronounced incurable, but some relief may be given by following a similar treatment to that given for broken wind. Extract of belladonna, 2 drams, and Fowler's solution of arsenic, one-half ounce, given twice daily during alternate weeks.

COUGHS.

CAUSES.—All affections and inflammation of the larynx and bronchial tubes are accompanied by a cough, and may differ according to the part affected; and often remain as a permanent or chronic result, which latter is almost incurable. Coughs often follow diseases of the liver.

SYMPTOMS.—Loud and forcible expulsion of air from the lungs. A strong, full cough, generally followed by sneezing, denotes health. When short, hacking, or less strong, indicates inflammation of the throat; while if deep, hollow and resonant, the irritation is in the chest.

TREATMENT.—Coughs being dependent on causes. In short, the cause must be removed; then, and only then, will the cough cease. It is very difficult to give course of treatment; though when cough is recent, bathe the throat well—up as far as the ears—at same time give internally, night and morning, in soft food, one of twelve powders composed of one and one-half ounces gum camphor, one ounce of digitalis, two ounces linseed meal, powdered and mixed.

DISEASES OF THE DIGESTIVE ORGANS.

CRIB BITING.

If habitual, the central incisors will show wear. The grunting sound produced in swallowing the air is called wind-sucking.

TREATMENT.—Place the horse in stall with very low manger, and high hayrack and window. Place salt within reach, and remove all projecting objects.

THE TEETH

CAUSES.—Bad teeth frequently cause diseases of grave difficulties. Disease or injury of the jaw causes bad teeth, and frequently they are broken by stones which are found in oats.

SYMPTOMS.—The pain will cause the horse to hold his head to one side while chewing, or while drinking cold water. Sometimes there is an offensive discharge, which may be mistaken for glanders or nasal gleet.

TREATMENT.—If the edges get sharp, or if one projects over another, use the tooth rasp. No use to fill cavities. Better extract the bad teeth and fill up the socket with gutta percha. If colts do not shed old teeth as the new appear, the old should be extracted, and thus afford room for the new set to grow.

WOLF TEETH.

CAUSES.—These are two small teeth, one of which is inserted immediately in front of each upper row of molars.

TREATMENT.—As they are of no value, extract them with a pair of strong pincers; and, when the bleeding has ceased, wash with alum water.

LOSS OF APPETITE.

Is an indication of internal disease or severe pain; or it may be the result of insufficient exercise.

TREATMENT.—Change of diet. A laxative of ten ounces of glauber salts in a pint of warm water; add an ounce of ground ginger. Place salt handy. Give reasonable exercise.

INDIGESTION.

CAUSES.—Feeding too soon after severe exertion. The horse should not be fed before resting one-half hour. Sudden changes of food from green to dry, from bulky to reverse. Unsound grain or hay. Too much strong nourishing food with too little exercise. Bad teeth. Overwork. This disease is not very common among horses.

SYMPTOMS.—Loss of spirits, unthrifty appearance, tongue and mouth coated and slimy, hide bound—manure yellow and offensive, pawing and switching with his tail. Showing signs of colic. Gradual loss of appetite and wasting away of flesh.

TREATMENT.—First ascertain if the cause is bad teeth or unsuitable food and remedy the defect. Change diet. Feed frequently steamed or boiled food, but avoid feeding corn. Place salt, magnesia or powdered chalk within reach. If case is severe, give purgative followed by tonic in soft feed of one-half ounce each of carbonate of soda, gentian and ginger; repeat the dose morning and evening for a week. Discontinue a week and repeat. Give him a thorough grooming every day and abundant exercise. If the proper season, turn him in the pasture for two or three months.

SPASMODIC COLIC.

CAUSES.—Is often caused by some indigestible matter which irritates the lining membrane of the bowels. Exposure to cold and wet. constipation, overfeeding and overwork. Large numbers of worms, intestinal tumors, drinking large quantities of cold water while in a heated condition.

SYMPTOMS.—Uneasiness, pawing, raising hind feet towards the bowels, getting up and down frequently, rolling around, grinding teeth, sweating profusely as the symptoms increase in severity. It is sometimes followed by inflammation of the bowels, which is generally fatal.

TREATMENT.—Give injection of warm water and a little soap. Give as one dose one-half ounce of chloroform in one quart raw linseed oil. If this does not soon bring relief, give four grains of morphine dissolved in one-half pint of water. Apply friction to the abdomen, give as a stimulant every half hour three ounces of whisky and one ounce tincture of ginger in one half pint of water. If the pain continues three or four hours, inflammation has probably set in and the treatment prescribed for inflammation of the bowels should be followed.

FLATULENT OR WINDY COLIC.

CAUSES.—Are similar to those of the former disease. Acute indigestion—fermentation of indigested food, causing bloating and severe pain.

SYMPTOMS.—Frequent eructation of wind through the mouth. Discharge of dung with gas. Profuse sweating, rolling, kicking, haggard appearance. If the bowels are greatly distended the lungs may be forced into so small a compass as to cause suffocation.

TREATMENT.—Apply friction and hot water rags to the belly. Warm water injections, being careful not to rupture the intestines with syringe. Walking exercise. Alkalies to neutralize the gases. Give every half hour three drams of aqua ammonia in a pint of cold water. As the pains subside, give the dose once an hour till they disappear. A dose of one ounce each of sweet sprits of nitre, tincture of ginger, tincture of gentian and laudanum in one-half pint of cold water, will often give relief. If medicines fail, as a last resort call a veterinary doctor or any person competent to use the trochar and cannula in puncturing the abdomen to tap the intestine which is distended with gas.

DIARRHŒA.

CAUSES.—Sudden change from dry to green laxative food; new hay, worms, exposure to cold and wet, bad state of blood. May result from indigestible food which irritates the bowels.

SYMPTOMS.—Frequent and abundant watery discharges generally acompanied with straining. Thirst, low temperature, pulse feeble, clammy mouth, poor appetite, cold ears and legs, grinding of teeth.

TREATMENT.—Ascertain the cause and remove it. Make a complete change in food. If due to indigestion give laxative dose, three to four drams of aloes and one ounce each of bicarbonate of soda and ginger. No exercise. If this fail, give every three hours, one ounce each of tincture of ginger, prepared chalk, compound tincture of gentian and one dram opium.

CONSTIPATION OR COSTIVENESS.

CAUSES.—Inaction of liver. Too much dry food, and insufficient supply of water, lack of exercise, or it may be due to weakness of the bowels

SYMPTOMS.—Small discharges of dry, hard, dark colored dung. Slimy and stringy with mucus. Colicy pains are felt at intervals.

TREATMENT.—Give frequent warm water and soap injections. If colicy pains increase, give laxative medicines. Change diet to sloppy food. Occasional bran mashes, daily exercise. In summer give grass.

ENTERITIS, OR INFLAMMATION.

The mucous lining of the bowels is affected.

CAUSES.—Over-feeding, indigestible and irritating substances in the bowels. Constipation, cold settling in bowels. Prolonged case of colic.

SYMPTOMS.—Continuous and increasing pain, profuse perspiration, great restlessness, loss of appetite, thirst, quick breathing, pulse 70 to 90, cold extremities. It is usually taken for colic. With colic the pain is intermittent and the horse throws himself down. With inflammation the pain is incessant and the horse lies down carefully.

TREATMENT.—Genuine cases are usually fatal. Frequent warm injections, one pint doses of linseed oil with one half ounce tincture nux vomica every hour. Alternate with four grains morphia. Apply

hot blankets to the abdomen every few minutes to draw the blood to the surface, follow with a strong mustard poultice. Give every hour doses of ten drops of tincture of aconite root until relief is obtained.

PERITONITIS

Is inflammation of the peritoneum or outer covering of the bowel.

CAUSES.—This disease often accompanies inflammation of the mucous membrane, or may arise from exposure or external bruises or cuts.

SYMPTOMS.—Rapid and painful breathing, quick pulse, chills followed by fever, cold legs and ears, belly tucked up, urine and dung scanty, swollen intestines.

TREATMENT.—Follow treatment prescribed for inflammation of the bowels.

WORMS.

CAUSES.—Several kinds of worms are frequently found in the rectum and sometimes in the colon. When they exist in large numbers they are quite injurious to the horse.

SYMPTOMS.—Their presence is seldom detected unless they are very numerous. Appetite usually ravenous, depression of spirits, loss of flesh and strength, staring coat, hide bound, passage of worms with dung, licking of side, rubbing nose on wall and general restlessness produced by the irritation of the worms in anus and rectum.

TREATMENT.—Frequent change of diet. Place salt handy. Give morning and evening for a week 1 dram sulphate of iron, 1 dram tarter emetic and 3 drams of powdered gentian with the food. Then give a purgative composed of one pint linseed oil (raw), one ounce of turpentine and 2 drams of ginger. Repeat the dose in three weeks, by which time the eggs adhering to the sides of the intestines will have hatched.

DISEASES OF THE URINARY ORGANS.

NEPHRITIS OR INFLAMMATION OF THE KIDNEYS.

Not very common among horses.

CAUSES.—Excessive use of nitre or other diuretic medicines, etc , eating injurious herbs with the grass, such as ranunculae, eating musty hay or other unsound feed, exposure to cold especially when water from the eaves drips on the loins.

SYMPTOMS —Quick and hard pulse, rapid respiration, profuse sweating; constipation; urine scanty, discharged with much pain, slimy and mixed with matter and blood. In walking the legs straddle; pressure of the loins gives severe pain.

TREATMENT.—Give internally a quart of raw linseed oil. If there is no movement of the bowels in 8 hours, repeat. Give 10 drops of tincture of aconite root every hour, until the symptoms are improved. Apply hot cloths to the loins continuously, until the congestion is relieved, follow with mustard poultice. Give warm injections per rectum every hour. Give the horse all he will drink of cold linseed tea and slippery elm bark. If possible, induce perspiration by clothing very warmly. Feed lightly with soft laxative food, avoid giving resin or nitre in any form.

CYSTITIS OR INFLAMMATION OF THE BLADDER.

CAUSES.—Usually the same causes that produce inflammation of the kidneys; the internal use of Spanish fly, or too liberal use of turpentine or Spanish fly blisters over the loins.

SYMPTOMS —Similar to those of inflammation of the kidneys. If the neck of the bladder is affected, the urine can not be retained but escapes involuntarily.

TREATMENT.—Same as for inflammation of the kidneys.

DYSURIA, OR RETENTIVE URINE.

CAUSES.—Spasms or paralysis of the neck of the bladder, caused by long retention of the urine, by lockjaw, colic, rheumatism, or by stone or tumor in neck of bladder.

SYMPTOMS.—Frequent attempts to urinate, colicy pains. Through the rectum the bladder may be felt full of urine.

TREATMENT.—Give frequent warm water injections and empty the bladder by passing in the catheter. Give every half hour 1 once of laudanum and ½ ounce each of tincture of belladona and aromatic spirits of ammonia in ½ pint of cold water. Apply hot blankets to loins and abdomen.

DIABETES, OR PROFUSE STALING.

CAUSES.—Musty oats or hay or other unsound food, excessive use of nitre or resin. Indigestion inducing thirst, causing the animal to drink very large quantities of water.

SYMPTOMS.—Frequent and excessive discharge of urine as clear as water; great thirst; capricious appetite; emaciation; loss of strength and spirits; constipation; slight fever; licking the walls, showing a craving for lime.

TREATMENT.—A complete change of food. Turn out to grass if convenient. Give linseed tea instead of water to drink, with a little bi-carbonate of soda in it. Give thrice daily a ball composed of ½ dram each of iodide of potassiodine and alum, 3 drams of linseed meal, mixed to make a ball.

CALCULI, OR STONE IN THE BLADDER.

CAUSES.—The vegetable acids in the food become, by digestion, carbonic acid, which, by combining with magnesia and lime in the blood, is transformed into calculi. This transformation is seldom effected except when there is a scarcity of water in the system. It may be caused by profuse sweating, prolonged attack of fever, dysentery or diarrhœa.

SYMPTOMS.—Sometimes the urine is bloody. There is a straddling gait and colicky pains. Straining in passing urine, caused by the obstruction in the passage.

TREATMENT.—To remove the stones, secure the services of a surgeon, and to prevent their return, feed liberally on grass in the summer and roots in the winter. Give abundant pure and soft water. If the water is hard, the mineral substance can be eliminated by applying the ashes of hard wood or by potash or caustic soda. If there is little inclination to drink, increase the supply of common salt.

DISEASES OF THE EYE.

SUPERFICIAL INFLAMMATION OF THE EYE.

CAUSES.—By cold and damp; by foreign substances in the eye, such as hayseed, lime, cinders, hair or by a stroke of a whip, or from inflammation of the membrane lining the inner surface of the eyelids.

SYMPTOMS.—Swollen eyelids, copious flow of tears, red and inflamed lining, eyes nearly closed, sensitive to light.

TREATMENT.—Carefully remove the object which irritates, sponge the eye and eyelids with warm milk and water. Place the horse in a darkened stall, and apply three times a day a portion of a mixture of 2 drams each of laudanum and fluid extract of belladonna and 1 pint of rain water.

SPECKS OR FILMS ON THE EYE.

CAUSES.—Generally the result of inflammation of the eye or of wounds on the eye-ball.

SYMPTOMS.—Extended spots of dull-colored or whitish appearance, which interfere with sight and often cause the horse to shy.

TREATMENT.—In the early stages blow into the eye once or twice a day a portion of 1 part of calomel and 2 parts of white sugar finely powdered; and apply twice a day with camel's-hair brush a portion of solution of 3 grains of nitrate of silver in an ounce of distilled water. If these specks result from a wound, they are not generally removable.

PERIODIC OPHTHALMIA, OR MOON BLINDNESS.

CAUSES.—Is often caused by want of ventilation and drainage in the stables. Is frequently hereditary, sometimes comes with shedding teeth, and is peculiar to coarse-bred horses. Is more common in the West. It invariably runs into cataract.

SYMPTOMS.—Eylids inflamed. Pus formed as result of inflammation. Signs of fever often manifest. Abundant discharge of hot tears. Eyes closed to avoid the light. Urine scanty, costive, and poor appetite.

TREATMENT.—Keep the horse in darkened stall, give a purgative, bathe the eyes frequently with warm water. Apply between the lids three times a day a portion of the following: Nitrate of silver 5 grains, water 1 ounce.

CATARACT.

CAUSES.—Repeated attacks of periodic ophthalmia, or from old age. The common result of all inflammatory diseases of the eye.

SYMPTOMS.—The pupil of the eye is dilated and filled with a speck or white lines.

TREATMENT.—In the early stages the eye may be cleared up by giving a purgative followed by tonics. When developed, no treatment will do any good.

AMAUROSIS OR GLASS EYE.

CAUSES.—Due to some disease of the optic nerve, or retina Results from injury to the brain, from falls, bruises or excessive fever.

SYMPTOMS.—A sudden change from darkness to strong light, or the reverse, causes no expansion or contraction of the pupil If only one eye is affected the action of the horse may not be changed; if both, the head and feet are lifted high when walking.

TREATMENT.—A cure cannot be hoped for unless the cause can be wholly removed.

DISEASES OF THE SKIN.

SURFEIT.

CAUSES.—High feeding with little exercise, sudden atmospheric changes, exposure, perspiration too suddenly checked. It is an effort of nature to work off the impurities of the blood.

SYMPTOMS.—Surface of skin rough and scabby; sometimes considerable itching. The general health of the horse seems to be little affected.

TREATMENT.—Blanket the horse, give bran mashes, steamed food, feed lightly, give a purgative, and give a sufficient amount of exercise each day.

MANGE.

CAUSE.—This disease is caused by insects which burrow in the skin. Mange is contagious by contact.

SYMPTOMS.—The skin becomes scaly and rough with pimples and blisters, especially on the neck, rump and tail. Hair falls off

TREATMENT.—Wash the affected parts with warm water and soap, when dry apply and rub well with a solution composed of 4 ounces flour of sulphur in ½ pint of linseed oil. Give loosening food and purgative. In summer give abundant green grass. Give, morning and evening, among the food 1 tablespoonful of Fowler's solution of arsenic. Give special attention to cleanliness of horse and stable.

HIDE-BOUND.

CAUSES.—A general unthrifty condition caused by exposure to bad weather; chronic diseases; derangement of the organs of digestion; poor or insufficient food; diseased teeth; abuse or any other cause that affects the general health of the animal.

SYMPTOMS.—The skin is dry and lies tight to the ribs; the hair is full of dandruff, has lost its gloss and is turned the wrong way.

TREATMENT.—The simplest and most effective treatment is to ascertain the cause, and remove it. If the edges of teeth are sharp, use the rasp. If properly fed, sheltered and exercised the animal will soon begin to thrive.

CRACKED HEELS OR SCRATCHES.

CAUSES.—Want of cleanliness, in cold and wet weather.

SYMPTOMS.—Cracks in the skin of the heels, generally of the hinder limbs, accompanied with more or less swelling. When dry the parts are hot and painful to the touch.

TREATMENT.—Give special attention to cleanliness. Keep the parts warm with flannel bandages. Apply equal parts of lard and alum or an ointment of 1 ounce sulphur, 2 ounces tar and 3 ounces simple cerate. Give soft feed.

WARTS.

SYMPTOMS.—Hardening of the cuticle, with development of semi-fibrous tumors, which are rooted in the skin.

TREATMENT.—The larger warts which project from the surface of the skin may be removed by strong waxed thread tied tightly round the base. Warts having a broad base may be removed with a knife, and the bleeding stopped by the touch of a hot iron, or they may be cauterized with lunar caustic. They may be removed by applying lunar caustic once a day. When burned keep them covered with fresh lard.

LICE.

CAUSES.—Neglect of cleanliness. Contact with lousy horses. Will often come in blankets, brush, currycomb, or anything that has been used on lousy horses.

TREATMENT.—Wash well with soapsuds and make an application with a stiff brush of a strong infusion of tobacco steeped in water for one or two hours. Burn all the hairs that come off in grooming, and keep the hens away from the stable.

DISEASES OF THE FEET AND LEGS.

FOUNDER OR LAMINITIS.

CAUSES.—Inflammation of the inner wall of the hoof, called horny leaves or laminæ, caused by sudden changes of temperature, over-exertion on hard roads, too much cold water, or by standing in draft while heated.

SYMPTOMS.—Sudden fever, great tenderness of feet, inclination to stand in one place and to throw weight of body on hind feet. Profuse sweating, loss of appetite.

TREATMENT.—Remove shoes and pare down rim of hoof till he can stand on the frog and sole, but do not pare away any of the sole or frog. Put the feet in poultices of linseed meal and bran. If much tenderness prevails, scarify the skin above the hoof and give him a hot foot bath to induce bleeding before applying the linseed poultice. Wrap the legs with flannel. Reduce the fever by giving ten drops of aconite root every hour for 6 or 8 hours. Feed lightly on soft feed, scalded oats or fresh cut grass.

WOUNDS IN THE FEET.

CAUSES.—Nails, glass or pieces of iron getting into the feet. Sometimes in shoeing, an awkward workman drives a nail in the wrong direction.

SYMPTOMS.—Lameness, bleeding, hot feet; the horse is feverish and rests a good deal on his toe.

TREATMENT.—Remove the cause and apply poultice of linseed meal and bran. If this does not give relief apply equal parts of tincture of myrrh and tincture of aloes.

QUITTOR.

CAUSES.—Fistula of the coronet, may be caused by corns, or wounds, or when gravel or dirt gets into fissures between the sole and the wall. It may also result from over-reachings and treads.

SYMPTOMS.—Lameness, swelling, tenderness, heat and discharge of pus in some instances.

TREATMENT.—Remove the cause and then apply a flaxseed poultice to the foot. If caused by a corn, cut it down, inject to the point where the pus is formed, twice a day for a week, a portion of a solution of one part corrosive sublimate and twenty parts alcohol.

CRACKS IN THE HOOF.

CAUSES.—Dryness and softness in the hoof, alternating, faulty shoeing, too much rasping of the wall.

TREATMENT.—After removing the shoe, the edges of the crack should be rounded off, without cutting into the depth of the crack. Cleanse the parts and apply linseed poultice. To keep out dirt, fill the crack with shoemaker's wax. Apply a light bar shoe, if the split extends the length of the hoof. Remove the bearing of the wall of the hoof from the split backward if the split is in the quarter near the heel, otherwise about half an inch each side of the split.

CONTRACTION.

CAUSES.—Is generally the effect of some other disease and accompanies nearly all chronic diseases of the feet, or may result from them. Long confinement in stable will bring it on. Imperfect rasping and shoeing, or allowing shoes to remain on too long without re-setting or putting on new pair.

SYMPTOMS.—The heels are drawn together, often to the extent of overlapping, the frog hard and dry and contracted. Sometimes the contraction is only on one side of the hoof.

TREATMENT.—Remove the shoes and pare down rim of hoof. Place on moist earthen floor, allow him to run out of doors on soft ground, if summer time place in pasture. Apply ointments. If re-shod use plain shoes without calks.

NAVICULAR DISEASE.

CAUSES.—Diseased condition of the navicular bone caused by overwork, sprain of the lower part of the tendon, concussion, bruises on the heels and frog, improper shoeing, and the same causes that produce contraction.

SYMPTOMS.—Largely the same as those of contraction. Horse points the foot forward while standing. A short, tripping gait, with tendency to stumble, caused by walking on his toes. The lameness decreases after the horse has been driven a distance. The shoes will be found worn most at the toes.

TREATMENT.—Follow treatment prescribed for contraction. After removing shoes and paring hoof, place the foot in a hot linseed poultice, changing twice a day, and continue for ten days.

CORNS.

CAUSES.—Allowing too long a period between shoeing. A horse should be shod or shoes re-set every month.

SYMPTOMS.—Lameness, heat, tenderness. In severe cases swelling of the coronet, with formation of pus. An inclination to walk on the heel more than on the toe.

TREATMENT—Remove the shoe, and if there is much lameness or tenderness and swelling, pare down the corn to the quick, but be careful not to start blood. If pus is found, apply flaxseed poultice. If the case is very obstinate, apply a bar shoe. After some tow dipped in tar has been placed in the cavity of the corn, be careful to rest or renew the shoeing every three or four weeks.

CALKS.

CAUSES.—Bruises or wounds of the coronet of the heels, caused by one foot stepping on the other, usually while backing with a heavy load, or while driving in deep, thick mud.

TREATMENT.—Cleanse the parts with warm water. Clip the hair short round the injured parts and pare away all ragged edges. Apply warm poultice. In slight cases apply a coat of tar. If in healing proud flesh should appear, apply powdered sulphate of copper, or tincture of iron, or powdered sulphate of zinc.

THRUSH.

CAUSES —Ulceration of the frog of the foot which sometimes rots off, caused by the horse standing in decaying filth or in manure and urine, which starts the decay by excluding the air from the foot for a long time.

SYMPTOMS.—More or less lameness, tenderness of the frog, a discharge of a black offensive pus between the heels.

TREATMENT.—Thoroughly cleanse the feet, removing all decayed matter, being careful not to wound the foot, which might induce blood poisoning if pus comes in contact with fresh wound. Apply flaxseed poultice. Renew every day until it is dried up and then apply oakum dipped in tar. Keep the horse on a dry floor, or if worked keep him on dry ground.

RINGBONE.

CAUSES.—Enlargement of the pastern bones around the upper or lower pastern joint from deposit of bony matter in the form of a ring around the leg, from which it derives its name. May be caused by a sprain, cut or bruise, which induces inflammation on or near the bone.

SYMPTOMS.—In the early stage there is inflammation of the surrounding membrane of the bone, swelling of the adjoining parts; lameness, especially on hard ground.

TREATMENT.—In the early stages, reduce the inflammation with hot baths. Follow with several applications each day of equal parts of nitrate of potash, ammonia and water and then apply blisters. If it does not yield to this treatment, cauterize with a hot iron.

SPAVIN.

CAUSES.—Sprains of the hock joint in slipping, jumping or pulling heavy loads, or caused by bruising the joint.

SYMPTOMS.—The enlargement may be seen on the lower part of the inner side of the back joint, by standing at the side of the horse, near the shoulder. Stiffness and lameness which decrease as he becomes heated with exercise—starts off on the toe of the foot. There is but little swelling until it reaches the second stage, when a bony enlargement is observed.

TREATMENT.—In the early stages, it may be cured by vigorous treatment to remove the inflammation which may be done by persistent application of hot water or flaxseed poultices. The treatment should be similar to that prescribed for ringbone.

SPLINT.

CAUSES.—Jumping, running, bruises, or kicks on the shank bone, a tendency to bony enlargements.

SYMPTOMS.—Lameness when trotting. One or more small bony enlargements will appear on the inner side of the shank between the shank and splint-bone. These become united in time. There is swelling and tenderness. If not near the knee joint they are no permanent detriment.

TREATMENT.—When the injury first occurs, apply either hot or cold water to reduce the inflammation; follow with tincture of arnica until the soreness is gone, then rub well two or three times a day with liniment composed of two parts tincture iodine to one part each turpentine and ammonia. Give the animal two or three weeks' rest.

SPRAINS OF THE BACK TENDONS.

CAUSES.—Severe sprains from leaping and galloping, or unusual exertion on hard roads; may be caused by overwork.

SYMPTOMS.—Severe lameness, with swelling and soreness, and with a tendency to rest the foot on the toe. Sometimes knotty tumors will appear all along the cords. In case of long standing there will be a thickening of the ligaments and tendons.

TREATMENT.—Apply hot water continuously until relieved of inflammation and soreness; after which rub well with a liniment composed of equal parts of ammonia, turpentine, arnica and opium diluted with three parts of water. Keep the limb tightly wrapped with woolen bandages. Allow the animal to rest until all lameness has disappeared.

SHOULDER LAMENESS AND SWEENY.

CAUSES.—Shoulder lameness is sometimes due to rheumatism, but is usually caused by a sprain of the muscles of the shoulder blade in slipping or falling, or by sudden starting and over-exertion in pulling heavy loads. While shoulder lameness is very common, sweeny is rare. The latter is a wasting away of the muscles of the shoulder blade.

SYMPTOMS.—The first symptom noted is lameness. The animal endeavors in walking to carry forward the shoulders and legs together without any movement of the knee-joint. In severe cases the leg can not be lifted over an obstacle a foot from the ground. There is swelling and soreness. Unless relief is soon obtained, the heads of the bones become affected, causing permanent lameness.

TREATMENT.—Should be similar to that prescribed for sprains of the back tendons. After the application of hot fermentations followed by a strong liniment, if relief is not obtained, apply a blister of one part powdered cantharides mixed with four parts lard. If this fail, setons may be used, but avoid the use of hot irons. In mild cases use strong hartshorn liniment. Sweeny may result from some disease of the lower parts of the limbs.

CURB.

CAUSES.—A sprain of the tendon which passes over and a little above the hock, frequently caused by backing a horse with too heavy a load, or by severe exertions in running and jumping.

SYMPTOMS.—A curve or bulging is noticed on the lower portion and back of the hock from a side view. There is swelling, tenderness and lameness.

TREATMENT.—Follow treatment prescribed for sprains. Remove shoes and re-set with heel elevated, after which give the animal abundant rest.

WIND-GALLS.

CAUSES.—Horses which are overworked frequently have enlargements around the fetlock joint, varying in size from a pea to a hen's egg, caused by too great a secretion by the synovial glands.

TREATMENT.—Wrap the parts well and keep the bandages wet with a decoction of white oak bark. If this does not remove them in long-standing cases, apply liniment, followed by blisters.

HIP LAMENESS.

CAUSES.—Leaping, galloping, severe efforts in heavy soil, but most usually caused by the points of the hip striking against door-posts. In falling, the hip is generally the first point to strike.

SYMPTOMS.—In severe cases the muscles will waste away. The horse usually goes forward in a stiff, dragging manner, with short steps. There is usually a slight swelling of the injured parts.

TREATMENT.—Should be similar to any other sprain, using weak or strong liniments and blisters, according to the degree of injury. As in all cases of sprain, give abundant rest. Do not apply setons except in stubborn cases.

STIFLED.

CAUSES.—A derangement or dislocation of the stifle cap or patella, caused by slipping and twisting the limb at the same time; this is peculiar to colts when the ligaments connected with the patella are in a relaxed state.

SYMPTOMS.—In cases of dislocation, the limb will protrude backward. In moving, the horse drags the limb affected. As the dislocation is inward, the limb is held upward and forward.

TREATMENT.—Attach a rope to the pastern, pulling the limb forward and outward, the knee-pan can be put into its place by pushing toward the flank of the horse. The part should then be bathed continuously for an hour or more with a strong solution of vinegar and salt. When the inflammation is reduced, apply a blister. The animal should wear high-heel shoes until recovered.

CAPPED ELBOW AND HOCK.

CAUSES.—Is a bruising of the points and elbow of the hock, usually caused by kicking or lying down, by letting the elbow come directly on the floor, or by bruising the elbow with a shoe. They are usually seen on high spirited horses, which become nervous from lack of sufficient exercise.

SYMPTOMS.—Swelling, with tenderness and soreness to the touch, but not usually accompanied with lameness. A repetition of the injury will often induce inflammation, or the swelling may sometimes become hardened.

TREATMENT.—As in all cases of bruises, apply hot water for an hour or two to remove inflammation. After rubbing dry, apply a liniment composed of equal parts of arnica, ammonia and opium, diluted with three parts water. Apply this solution two or three times a day for one or two weeks. Should a tumor form, do not incur any risk of blood poisoning by opening it before the covering is very thin and dead, after which treat it as a case of abscess. Should a hardened tumor form at the elbow, have it cut out by an expert veterinary surgeon. If the tendon is sprained, the animal will be relieved by applying a high-heeled shoe without toe pieces. These difficulties may easily be prevented by furnishing abundant bedding and by giving the horse sufficient exercise.

SWOLLEN LIMBS.

CAUSES.—Exposure to cold, wet or filth, or from diseases of the blood, as glanders.

SYMPTOMS.—Swelling of the limbs which may extend from the body to the feet, or which may be confined to the lower parts of the legs. There is stiffness and lameness.

TREATMENT.—Ascertain the cause and remove it. Should the swelling remain, give the animal every morning and night in the feed two tablespoonfuls of a tonic composed of one ounce each of tincture of iron and nitrate of potash, mixed with four ounces of linseed meal. Apply friction to the swollen parts and then wrap tightly with a woolen rag saturated with a decoction of oak bark. Special attention should be given to daily exercise and to a diet of soft feed.

WOUNDS.

TREATMENT.—When the skin and flesh are laid open by cuts, kicks or collisions, the bleeding must be stopped immediately. If an artery is cut, which may be ascertained by the blood flowing in spurts, a compress should be placed between the wound and the heart. If the flow is steady a vein is severed, and the compress should be placed on the side of the wound furthest from the heart. If an artery is cut in some part of the body which can not be bandaged, it must be caught up, which can be done with a small pair of pincers, and tied, after which unite the edges of the wound with stitches, being careful not to draw too tightly. Generally, however, the bleeding may be stopped by filling the cut with soot, cobwebs or lint. Clip the hair from around the wound. If the wound is very severe the horse should be placed in a sling. Should the horse become feverish, give every hour a dose of ten drops of tincture of aconite until the fever subsides. Bathe the wound three or four times a day, or inject with syringe a solution composed of one part each of laudanum and carbolic acid with thirty parts water, or a solution of either of the ingredients named with twenty parts water, or apply equal parts of tincture of aloes and tincture of myrrh. If proud flesh appears, apply alum.

OPEN JOINT.

CAUSES.—Falling on the road, bruises, cuts, pricks from nails or broken glass.

SYMPTOMS.—When serious there is a discharge from the wound of a pale, yellowish fluid of the consistency of the white of an egg. There is swelling, heat. The fever is sometimes followed by inflammation.

TREATMENT.—If neglected almost every case will prove fatal from exhaustion. When the open joint is discovered wash the wound with tepid water containing a few drops of carbolic acid. If there is a large lacera-

tion of the skin, the wound should either be sewed or the edges should be united by plasters, but leave opening for escape of pus. To prevent movements of the joint, place the horse in a sling and apply splints to the limb secured by bandages. Care should be exercised in removing pus from the wound, to avoid removing the synovia or joint oil. Should the horse become feverish, give a dose of 10 drops tinture of aconite three or four times a day. Apply poultices of lints, or wads of tow saturated in a solution of equal parts carbolic acid and glycerine, or these ingredients may be mixed with flour into a paste to be inserted into the wound, which should be secured by a light linen bandage.

BRUISES.

TREATMENT.—Application of warm water to reduce inflammation followed by Tincture of arnica to relieve the bruise of tenderness and soreness. If there is formation of pus, apply same treatment as for abscess.

ABSCESS.

CAUSES.—It may result from bruises made by blows or kicks, or by the presence of some foreign body, such as splinter or nail, but are usually caused by impurities of the blood.

SYMPTOMS.—There is always swelling and tenderness with fever. The swelling at first is hard, but becomes soft as the pus accumulates. If located immediately under the skin, it will usually break and discharge its contents within one or two weeks, but if deeply seated under sinews the pus is liable to burrow in different directions, sometimes producing fistula.

TREATMENT.—Give the animal one pint of linseed oil and repeat dose in six hours. Give three times a day two tablespoonfuls of a tonic composed of one ounce each of tincture of iron and tincture of gentian with ten ounces of water, apply linseed poultices to the abscess. Do not open the abscess until it points or comes to a head. There is great danger of blood poisoning if the abscess is opened before its covering becomes thin and dead. After opening, thoroughly wash out all the pus with warm water containing a few drops of carbolic acid, using a syringe. Wash the wound with this solution two or three times a day.

SADDLE GALLS.

CAUSES.—A badly fitting harness or saddle, bruising, chafing and rubbing the skin off in spots on the back or shoulders

TREATMENT.—Make necessary change in harness to produce as little friction as possible. Bathe the sore or bruised spots with tincture of arnica or with spirits of camphor. If possible give the horse rest until the sores are healed.

POLL-EVIL.

CAUSES.—A sore affecting the bones of the neck near the top of the head caused by striking the head against a low door, ceiling or any other object, or it may be caused by "halter pulling." An abscess forms which burrows into the bones.

SYMPTOMS.—There is swelling and heat with a flow of pus, which has a strong, disagreeable odor.

TREATMENT.—Remove halter and allow the horse to go loose in the stall. An incision must be made and kept open for the escape of the pus which accumulates. Remove all decayed portions of the bone, inject with syringe, twice a day, a solution composed of one part carbolic acid with twenty parts of water. If the bone is ulcerated, apply a weak solution of hydrochloric acid. Follow this with a solution of equal parts of carbolic acid and linseed oil, which may be applied two or three times a day. Should the flesh slough off, wash with water containing a few drops of chloride of zinc. In the early stages of this disease, apply hot linseed poultices until it is ready to open.

FISTULA.

CAUSES.—Badly fitting harness or saddles, knocks or bruises.

TREATMENT.—Follow same treatment prescribed for poll-evil. Special care should be exercised in removing pieces of decayed bones. No cure can be affected so long as the bone is diseased. All the fistulous openings must be probed, or if the services of a veterinary surgeon can be secured, have them opened up their whole length. If too deep seated for this purpose, insert setons through the canal and out through the skin, thus making a new opening for the escape of pus, after which inject the same remedy as prescribed for poll-evil.

HORNED CATTLE.

DISEASES OF THE RESPIRATORY ORGANS.

SIMPLE COLD AND CATARRH.

CAUSES.—Exposure to draught, sudden changes of weather, damp and poorly drained stables, lack of proper shelter in cold weather.

SYMPTOMS.—There are fits of shivering, fever, cold extremities, dullness, staring coat, loss of appetite and cud. Sometimes cough and decrease of milk, swollen and watery eyes.

TREATMENT.—Remove the cause by putting the animal in a cool and comfortable stable, covering the body with a blanket, and, if the bowels are constipated, give a pint of melted lard or a pint of linseed oil. Steam the head with hot mashes, placed in a deep nose-bag, or the steam may be confined by simply throwing a blanket over the head. The object of the steaming is to assist in the discharge of the accumulation of mucus. Give the animal all the water desired and a diet of soft feed. Four times a day give a solution composed of two ounces of acetate of ammonia, two ounces spirits of nitre, and one ounce nitrate of potash; or, if these ingredients are not convenient, give the animal every two hours ten drops of tincture of aconite until the fever subsides.

SORE THROAT AND LARYNGITIS.

CAUSES.—Is usually the same as a common cold.

SYMPTOMS.—There is inflammation of the larynx, or the upper part of the windpipe, causing difficulty in eating or chewing the cud. There is rapid pulse and breathing, with more or less fever. The difficulty in swallowing will frequently cause the water to return through the nose.

TREATMENT.—Apply and thoroughly rub the parts swollen with a mustard paste. Every hour or two wash off the mustard and rub in more. If this treatment does not make the swelling subside within two or three days, apply a soft and hot linseed poultice to assist suppuration. Inject with syringe several times each day chloride of potash dissolved in water. Give internally, morning and evening, a teaspoonful of saltpetre dissolved in water. Give diet of soft feed.

BRONCHITIS

CAUSES.—It may develop from a common cold, or it may be the result of neglect of laryngitis or catarrh.

SYMPTOMS.—Painful, rapid breath, a distressing, hoarse cough, rapid pulse and breath, fever, loss of appetite and cud, staring coat, constipation, and difficulty in swallowing.

TREATMENT.—Give the animal warm, comfortable quarters, with good ventilation, covering the body with a blanket and give laxatives, and steam the head as for catarrh. In serious cases give frequently warm injections of soapsuds and rub well the throat and along the windpipe with hartshorn liniment. After the fever has subsided, follow this with a tonic morning and evening of one ounce each of tincture of gentian and tincture of iron.

HUSK, OR BRONCHITIS FROM WORMS.

CAUSES.—Young stock are frequently affected with a species of worm in the windpipe. These worms are found in low, undrained pastures. Sheep are more likely to be affected as they graze closer than cattle.

SYMPTOMS—Are similar to those of Bronchitis. There is generally weakness and loss of flesh. Frequently small rolls of worms are coughed up. These rolls often cause suffocation.

TREATMENT.—Put the animal in a stall and feed liberally with nutritious diet. Give with the feed a tonic of 1 oz. of ginger and tincture of gentian. The worm may be destroyed by inhaling smoke of burning sulphur. Give internally, three times a day, 2 drams of turpentine; on recovery place the animal in a dry pasture free from clover.

PLEURISY.

CAUSES.—The lining membrane of the chest covering the lungs called the Pleura becomes inflamed by exposure to drafts, cold and storms. It frequently accompanies inflammation of the lungs, bronchitis or catarrh.

SYMPTOMS.—There is a fever, rapid pulse, painful breathing, dullness, loss of appetite and cud, short hacking cough and grunting.

TREATMENT.—To reduce the fever give 10 to 20 drops of tincture of aconite every two hours, according to the severity of the case. When it has subsided, give in the feed, three times a day, 1 oz. each of tincture of iron and tincture of gentian. Give dose of laxative of one pint linseed oil. Apply repeatedly a mustard paste mixed with oil of turpentine to the whole chest. If this does not afford relief, apply blister of powdered cantharides. Apply coat of oil daily to the blistered surface. Give the animal linseed tea and steamed food.

PNEUMONIA, OR INFLAMMATION OF THE LUNGS.

CAUSES.—Are the same as cold, catarrh, bronchitis, pleurisy and laryngitis, but are often the sequel of these diseases.

SYMPTOMS.—Severe shivering, loss of appetite and cud, staring coat, quick pulse, rapid breathing and great thirst. In severe cases the lungs may become solid like liver and suppuration may set in with discharge of pus through the nose. Such cases quickly prove fatal.

TREATMENT—Should be the same as prescribed for bronchitis. Avoid the antiquated method of bleeding. Serious cases of congestion may be relieved by strong blisters and frequent injections of warm soapsuds. Give laxative medicines, linseed tea and steam food.

DISEASES OF THE DIGESTIVE ORGANS.

DYSPEPSIA, OR CHRONIC INDIGESTION.

CAUSES.—From irregular or overfeeding, or from improper diet, especially in connection with exposure to cold and storms.

SYMPTOMS.—A fluctuating appetite, belching, staring coat, the skin is dry and there is usually rapid loss of flesh.

TREATMENT.—Make a complete change of food. If convenient feed on roots and green grass. A few days complete abstinence from food for the purpose of giving the stomach rest may effect a cure in the early stages. Give lime water and phosphate of lime, the latter may be supplied the animal by grinding or pulverizing bones. Follow with a tonic composed of two drams each of ginger and tincture of gentian, and bi-carbonate of soda.

MAW-BOUND, OR LOSS OF CUD.

CAUSES.—May be caused by other internal diseases or by an unusually full meal, when the food becomes so impacted as to cause temporary paralysis. If not soon relieved, fermentation soon sets in, causing great distress and frequently death from suffocation. When the paralysis is the result of ingorgement the services of a veterinary surgeon should be secured at once to empty the rymen with the hands. When the animal begins to recover feed lightly on grass and sloppy food.

CHOKING.

CAUSES.—This is a very common accident where the animal is fed with corn on the cob or on turnips and apples.

SYMPTOMS.—Coughing, great distress, repeated efforts of swallowing, profuse flow of saliva. If the substance is in the neck part of the throat it may be felt; and by manipulation it may be removed The obstruction may be removed by inserting through the mouth a rattan or any green flexible stick covered with leather, if this fails a physician should be called to make an incision lengthwise in the neck.

BLOATING.

CAUSES.—Indigestion from overfeeding or from eating large quantities of wet clover.

SYMPTOMS.—There is swelling of the abdomen, difficult breathing, copious flow of saliva, staring eyes, moaning and grunting.

TREATMENT.—Give every hour an ounce of ammonia in a pint of cold water. If this does not give relief within a few hours, give water with a little chloride of lime.

In urgent cases it is necessary to use the Trocar which should be inserted in the left flank midway between the hock bone and the last rib and eight inches from the bones of the loins.

DIARRHŒA.

CAUSES.—Impure water, bad food, sudden change of diet, exposure, or it may result from other diseases, especially those diseases which greatly debilitate the system.

SYMPTOMS.—Poor appetite, cold extremities, loss of milk.

TREATMENT.—Make complete change of diet. Give one ounce of laudanum with a pint of linseed oil, repeat dose in six hours. Follow with three doses each day of a tonic composed of one ounce each of ginger, tincture of gentian and tincture of iron until relief is obtained. Give linseed tea to drink, nourishing diet. The foregoing doses should be reduced when given to calves.

MISCELLANEOUS DISEASES.

ANTHARAX, OR BLOODY MURRAIN.

CAUSES.—Whether it is an Epizootic Disease or whether it is contracted by inoculation, is not understood. The disease appears frequently spontaneously among young cattle feeding in a low, damp and rich pasture, especially feeding on grass growing where ponds have been drained. Possibly the miasm arising from such ground makes the disease more malignant.

SYMPTOMS.—The disease makes very rapid progress, death frequently following within twelve or twenty-four hours of the attack. There is lameness, stiffness of the limbs, quick pulse, rapid breathing, loss of appetite, swelling and tenderness of the parts affected, which may be followed by a sloughing off of the skin.

TREATMENT.—Bleeding in the early stages of the disease may give relief. Give a pound of Epsom salts and two ounces extract of ginger dissolved in water, and a quarter to one half pound to calves, in proportion to size. Follow this every two hours with one dram each nitrate acid and muriate acid mixed in a pint of water. Remove the animal to a cool, shady place out of doors. Sponge the body thoroughly with cold water, and, after rubbing dry, scarify the wounds, and apply chloride of lime diluted with water. Be sure that all the diseased tissue is reached. Apply poultices to aid in suppuration. To reduce swelling, bathe with a strong solution of vinegar, give abundant salt and water.

RHEUMATISM.

CAUSES.—Exposure to cold, dampness and draughts, or it may result from other diseases.

SYMPTOMS.—There is lameness, swelling and tenderness of the joints or of the loins. The disease frequently shifts from one part of the body to another. There is fever, quick pulse, rapid breathing and thirst.

TREATMENT.—Place the animal in comfortable quarters with abundant bedding. Bandage the limbs and cover the body with a blanket. Rub the parts affected with strong hartshorn liniment. If this does not give relief within one or two days, clip the hair closely and apply blister of powdered cantharides.

FOUL IN THE FEET.

CAUSES.—Wounds from glass, nails, filthy stables with damp grounds.

SYMPTOMS.—Ulceration and discharge of pus from the cleft between the hoofs. The first symptoms are lameness and swelling.

TREATMENT.—If caused by wounds, remove the foreign body, clense the parts thoroughly and apply frequently linseed poultices. If the horn of the hoof is affected, carefully remove all decayed parts and fill the cavity with wads of tow or lint saturated in melted tallow or tar. After removing with a syringe all pus from the tumors, apply a mixture of equal parts of turpentine and sweet oil.

MILK-FEVER.

CAUSES.—Natural to heavy milkers and to heifers after first calving. Occurs mostly in summertime. Cows kept in too high condition, are most subject to it; feeding too liberally before and directly after calving, or by driving until the animal becomes overheated.

SYMPTOMS.—Soon after calving, the cow may lose her appetite and appear dull, with signs of fever; horns hot; muzzle dry; bowels costive; pulse and breath quick; restless movements with the hind legs; the udder hot, hard, sore and distended with milk. The milk is sometimes blody or curdled.

TREATMENT.—Give purgative dose of epsom salts. Follow up every half hour with stimulants, of ½ ounce of aromatic spirits of ammonia and one ounce each of tincture of ginger and sweet spirits of nitre, given in a pint of cold water or linseed tea. Apply cold rags to the head, or a bag filled with chopped ice and sawdust. Apply blister along the spine, and friction, with equal parts of water and alcohol, to the limbs. Keep the udder free. In case of much bloating, insert the trocar in the left flank. Give frequent injections of soapsuds. On recovery, give tonics, of one scruple of powdered nux vomica, one drachm of powdered sulphate of iron, and one ounce of powdered gentian in a pint of thin gruel or linceed tea, twice or thrice daily during the week.

GARGET OR CAKED UDDER.

CAUSES.—Not stripping the udder clean at each milking; exposure to cold and wet; bruises.

SYMPTOMS.—One or more of the quarters may be hot, tender and swollen; the cow feverish and costive, loss of appetite and cud, milking painful, milk mixed with blood or matter, gradual hardening of the bag, and formation of tumors filled with matter.

TREATMENT.—Frequently remove the milk, apply warm poultices in bandage fastened over the loins, and leaving holes for the teats to protrude. If milking is difficult, use milk tube; then apply hartshorn liniment with friction. When abscesses form they should be lanced when well matured and basilicon ointment applied to the wounds. Give a laxative dose of epsom salts; soft feed. If hard swellings remain, apply with friction by the palm of the hand frequently a portion of a liniment made of 1 ounce of aqua ammonia, 3 ounces of olive oil and 1 dram of iodine. Recovery will be slow.

SORE TEATS.

CAUSES.—Rough milking, bruises, warts, frost bites, cow-pox.

SYMPTOMS.—The presence of cracks, fissures and scabs, restlessness and pain at milking, milk sometimes streaked with blood, lower part of the udder hot and tender, teats raw and sore from cow-pox, nodules and blisters of pinkish color.

TREATMENT.—Bathe with warm water, poultice; for sores and cracks, use Griar's balsam. Milk with tube in all cases of sore teats. In the case of cow-pox, give internally eight ounces of Glauber's salts dissolved in one pint of hot water, and add thereto one ounce of ground ginger. Warts may be clipped of and ointment of one part white lead and four parts of lard applied. Wash the teats with soapsuds.

BLOODY MILK.

CAUSES.—Inflammation, or internal lesion of the udder, sudden change to rich feeding, eating of acrid plants, rough milkings.

SYMPTOMS.—Besides the symptoms accompanying diseased conditions of the udder and teats, if such exist, the milk is more or less streaked with blood while it is being drawn, and when allowed to stand, the blood falls to the bottom.

TREATMENT.—If due to diseased conditions of the udder or teats it will cease with the cure of these. When due to noxious plants, change pasturage. When due to unknown causes, give morning and evening one half a dram of powdered camphor, and one-half an ounce each of powdered oak-bark and ginger in one-half a pint of gruel, or one-half a dram of tannin and three drams of powdered gentian in one-half a pint of gruel.

SHEEP.

CATARRH AND BRONCHITIS.

CAUSES.—Very common in spring and fall, caused by exposure to cold and wet.

SYMPTOMS.—Weak pulse, rapid breathing, slight watery discharge from the nose, sneezing, loss of appetite.

TREATMENT.—Remove the animal to comfortable, well-ventilated quarters. Boil gently fifteen minutes two ounces each of ginger, gentian and one ounce rhubarb in a quart of water, after cooling add one ounce carbonate of ammonia, keeping bottle well corked. Give two tablespoonfuls four times a day, also give good nourishing food and drinks. Cleanse the nose with wet sponge. Apply liniment of ammonia to the throat.

BLOATING.

CAUSES.—Wet clover, rich pasturage, overfeeding, indigestion.

SYMPTOMS.—Rapid breathing, sleepiness. The abdomen is swollen, especially on the left side; when struck with fingers gives a sound like a drum.

TREATMENT.—Carefully insert a small trocar into the left flank and keep it there while gas escapes or plunge the sheep in a river and let him swim awhile. Give one-half ounce of aqua ammonia in a pint of cold water. If no decrease in bloating after twelve hours, give two drams of chloride of lime in a pint of cold water hourly. Afterward give purgative dose as advised for black quarter.

GRUBS IN THE HEAD.

CAUSES.—The lodgment of the eggs of the gad-fly within the sinuses of the forehead. The eggs are deposited in the nostrils of the sheep in July and August, the gad-fly crawling up the cavities of the nose.

SYMPTOMS.—From the nose is a discharge of matter, irritation, coughing, and sneezing.

TREATMENT.—When the grubs are not firmly fixed, the injection of equal parts of sweet oil and turpentine will often dislodge them, but must be careful not strangle the sheep. Prevention: During July and August, rub tar on the sheeps' noses once a day.

DIARRHŒA.

CAUSES.—Exposure to cold and wet, changing suddenly from dry food to grass; most frequent amongst lambs.

SYMPTOMS.— Loss of appetite and flesh, frequent discharge of liquid dung; emaciation.

TREATMENT.—Give two to three ounces of castor oil with two to three drams of laudanum; one-third to one-half a dose for lambs. Afterward give, morning and evening, one-half an ounce of compound chalk powder, two drams of powdered gentian root, three ounces of peppermint water and two ounces of starch emulsion mixed together. One-third to one-half a dose for lambs. Give one part of white of eggs and six parts of water, well shaken together; may be given in unlimited quantities. Keep the animals indoors. Give access to salt.

FOOT-ROT.

CAUSES.—Filthy barnyards; wet and low pastures.

SYMPTOMS.—Lameness, loss of appetite. The skin at the top of the clefts of the hoofs and over the heels becomes red, moist, warm and rough; then there is a discharge.

TREATMENT.—Cut away all the diseased parts, careful not to inflict any wound. Cleanse and bathe with warm water. Dip the foot in tar and keep the sheep in a dry, well-littered yard, on dry, short pasture, and watch the hoofs daily for some time. Renew the tar coating, if necessary. If proud flesh appear, apply a coat of tincture of iron. Sprinkle air-slaked lime on the floor.

WOUNDS AND BRUISES.

TREATMENT.—The wound should be thoroughly cleansed of all dirt, and, if there is much bleeding, apply strong solution of copperas, or tincture of iron, by means of a wad of tow. Clip the wool off all around the wound, if it is a deep one, and if it discharge, use Friar's Balsam or equal parts of tincture of myrrh and of aloes. If there is too much sprouting of flesh, apply powdered sulphate of zinc or tincture of iron. Make frequent use of poultices, and apply equal parts of arnica and water. Be very careful in regard to cleanliness.

FRACTURES.

SYMPTOMS.—The limb swings and twists around, and can not hold the weight of the body. The limb swells and is accompanied with pain and fever; the animal becomes listless.

TREATMENT.—If the bone is broken in several pieces, and has cut through the skin, and the soft, fleshy parts have become bruised, treatment is useless; the animal should be at once killed. Less complicated fractures will yield to rest, though the limb will be deformed. Adjust the fractured ends to their proper place; then bind the limb with a strip of cotton or linen, add cotton wadding, and then apply light wooden splints; but do not bandage too tightly. The bandage should remain on the limb from four to six weeks, the animal being kept quiet and well fed. Bandages may be made of stiff pasteboard or cotton soaked in starch.

SCAB.

CAUSES.—Produced by minute insects burrowing beneath the cuticle, and which come through contact with scabby sheep, posts, trees or fences where such sheep have been rubbing. Filth is the principal cause.

SYMPTOMS.—The sheep is very restless and irritable, scratching and rubbing against anything near; bites its fleece which becomes ragged and drops off. Rough, hard, red pimples and scabs appear, principally along the neck back and sides.

TREATMENT.—Tobacco wash is the most effectual. For each sheep, take one-fourth pound of coarse tobacco and steep it in a quart of water. Stir till cold, and then strain. Add a few ounces of soft soap and three quarts of water. Increase quantity of fluid in proportion to number of sheep to be treated. Dip all the body except head and repeat in one week. Burn all loose wool and cleanse shed.

TICKS.

SYMPTOMS.—The ticks are large insects living on the surface of the skin and suck blood. Are mainly found on the neck and shoulders, and cause great irritation. When the wool is divided, or when the sheep is shorn, they are plainly seen.

TREATMENT.—They should be picked off with the fingers when possible, or mix equal parts of coal oil and lard oil; make furrows in the wool, three inches apart, along the neck, back, sides and quarters, and smear a portion into the skin. Repeat this once a month. Shearing time is the best time to remove ticks.

SWINE.

COUGHING.

CAUSES.—May result from worms, or exposure to cold and dampness.

TREATMENT.—If worms, remove the cause by applying treatment for worms. If from exposure, give equal parts of powdered liquorice root, and camphor; doses of one dram each may be given three times a day with the food.

SORE THROAT.

CAUSES.—From contagion, bad food or filthy and badly drained pens.

SYPMTOMS.—Coughing, swelling of the throat, and difficulty in swallowing, and loss of appetite.

TREATMENT.—Malignant cases make rapid progress, and are frequently fatal. After scarifying the swelling on the throat, apply carbolic acid to the wound, and then follow with poultices which should be changed frequently. Give water to drink containing small quantity of tartar emetic. Keep separate from other swine.

INFLAMMATION OF THE LUNGS.

CAUSES.—Are similar to that of Sore Throat and Coughing.

SYMPTOMS.—Blood-shot eyes, protruding tongue, rapid breath, chills, coughing.

TREATMENT.—Apply to the chest a liniment of equal parts of turpentine and ammonia. In a severe case, give every three hours ten grains of nitre and one grain of tarter emetic until the fever is reduced. If vomiting results, discontinue this remedy for three or four hours.

DIARRHŒA.

CAUSES.—Bad food and water, exposure or sudden changes of diet.

TREATMENT.—Give dose of oil as prescribed for Rheumatism. Give twice a day a mixture composed of one-half pint of peppermint water, one dram each of powdered opium and ginger, and one ounce of powdered prepared chalk.

WORMS.

SYMPTOMS.—Veriable appetite, coughing, vomiting, loss of flesh and paralysis of the hindquarters.

TREATMENT.—For young pigs, give a teaspoonful and for hogs a tablespoonful of flour of sulphur in the food three times a day. Discontinue in three days but repeat every ten days until the worms are destroyed. Feed on buttermilk, acorns, sliced raw onions and green fruit. Give access to salt and wood ashes.

CHOLERA.

CAUSES.—It may be caused by contagion, or by the same causes which produce diarrhœa.

SYMPTOMS.—There is great stupor, diarrhœa or costiveness, vomiting, rapid breathing, hanging of the head, excrements streaked with blood.

TREATMENT.—When the disease is contagious, keep separate from other animals and thoroughly disinfect the styes. No satisfactory treatment is recommended.

EPILEPSY.

CAUSES.—From indigestion, resulting from overfeeding, or from improper food.

SYMPTOMS.—Blood-shot eyes, rapid breathing, squealing, running in a circle, profuse foaming, followed by convulsions.

TREATMENT.—Follow the treatment as prescribed for worms, giving special attention to the quantity and quality of food.

LUMBER MEASUREMENT AT SIGHT, ONE INCH BOARD MEASURE.

Showing the contents of inch boards from 6 to 25 in. broad and from 8 to 36 ft. long. For plank, double or treble the product as may be required. If longer or wider than the dimensions here given, add two suitable numbers together.

Feet Long.	WIDTH IN INCHES.																																					
	6 in w		7 in w		8 in w		9 in w		10 in w		11 in w		12 in w		13 in w		14 in w		15 in w		16 in w		17 in w		18 in w		19 in w		20 in w		21 in w		22 in w		23 in w		24 in w		25 in w	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
8	4	0	4	8	5	4	6	0	6	8	7	4	8	0	8	8	9	4	10	0	10	8	11	4	12	0	12	8	13	4	14	0	14	8	15	4	16	0	16	8
9	4	6	5	3	6	0	6	9	7	6	8	3	9	0	9	9	10	6	11	3	12	0	12	9	13	6	14	3	15	0	15	9	16	6	17	3	18	0	18	9
10	5	0	5	10	6	8	7	6	8	4	9	2	10	0	10	10	11	8	12	6	13	4	14	2	15	0	15	10	16	8	17	6	18	4	19	2	20	0	20	10
11	5	6	6	5	7	4	8	3	9	2	10	1	11	0	11	11	12	10	13	9	14	8	15	7	16	6	17	5	18	4	19	3	20	2	21	1	22	0	22	11
12	6	0	7	0	8	0	9	0	10	0	11	0	12	0	13	0	14	0	15	0	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0
13	6	6	7	7	8	8	9	9	10	10	11	11	13	0	14	1	15	2	16	3	17	4	18	5	19	6	20	7	21	8	22	9	23	10	24	11	26	0	27	1
14	7	0	8	2	9	4	10	6	11	8	12	10	14	0	15	2	16	4	17	6	18	8	19	10	21	0	22	2	23	4	24	6	25	8	26	10	28	0	29	2
15	7	6	8	9	10	0	11	3	12	6	13	9	15	0	16	3	17	6	18	9	20	0	21	3	22	6	23	9	25	0	26	3	27	6	28	9	30	0	31	3
16	8	0	9	4	10	8	12	0	13	4	14	8	16	0	17	4	18	8	20	0	21	4	22	8	24	0	25	4	26	8	28	0	29	4	30	8	32	0	33	4
17	8	6	9	11	11	4	12	9	14	2	15	7	17	0	18	5	19	10	21	3	22	8	24	1	25	6	26	11	28	4	29	9	31	2	32	7	34	0	35	5
18	9	0	10	6	12	0	13	6	15	0	16	6	18	0	19	6	21	0	22	6	24	0	25	6	27	0	28	6	30	0	31	6	33	0	34	6	36	0	37	6
19	9	6	11	1	12	8	14	3	15	10	17	5	19	0	20	7	22	2	23	9	25	4	26	11	28	6	30	1	31	8	33	3	34	10	36	5	38	0	39	7
20	10	0	11	8	13	4	15	0	16	8	18	4	20	0	21	8	23	4	25	0	26	8	28	4	30	0	31	8	33	4	35	0	36	8	38	4	40	0	41	8
21	10	6	12	3	14	0	15	9	17	6	19	3	21	0	22	9	24	6	26	3	28	0	29	9	31	6	33	3	35	0	36	9	38	6	40	3	42	0	43	9
22	11	0	12	10	14	8	16	6	18	4	20	2	22	0	23	10	25	8	27	6	29	4	31	2	33	0	34	10	36	8	38	6	40	4	42	2	44	0	45	10
23	11	6	13	5	15	4	17	3	19	2	21	1	23	0	24	11	26	10	28	9	30	8	32	7	34	6	36	5	38	4	40	3	42	2	44	1	46	0	47	11
24	12	0	14	0	16	0	18	0	20	0	22	0	24	0	26	0	28	0	30	0	32	0	34	0	36	0	38	0	40	0	42	0	44	0	46	0	48	0	50	0
25	12	6	14	7	16	8	18	9	21	0	22	11	25	0	27	1	29	2	31	3	33	4	35	5	37	6	39	7	41	8	43	9	45	10	47	11	50	0	52	1
26	13	0	15	2	17	4	19	6	21	8	23	10	26	0	28	2	30	4	32	6	34	8	36	10	39	0	41	2	43	4	45	6	47	8	49	10	52	0	54	2
27	13	6	15	9	18	0	20	3	22	6	24	9	27	0	29	3	31	6	33	9	36	0	38	3	40	6	42	9	45	0	47	3	49	6	51	9	54	0	56	3
28	14	0	16	3	18	8	21	0	23	4	25	8	28	0	30	4	32	8	35	0	37	4	39	8	42	0	44	4	46	8	49	0	51	4	53	8	56	0	58	4
29	14	6	16	11	19	4	21	9	24	2	26	7	29	0	31	5	33	10	36	3	38	8	41	1	43	6	45	11	48	4	50	9	53	2	55	7	58	0	60	5
30	15	0	17	6	20	0	22	6	25	0	27	6	30	0	32	6	35	0	37	6	40	0	42	6	45	0	47	6	50	0	52	6	55	0	57	6	60	0	62	6
31	15	6	18	1	20	8	23	3	25	10	28	5	31	0	33	7	36	2	38	9	41	4	43	11	46	6	49	1	51	8	54	3	56	10	59	5	62	0	64	7
32	16	0	18	8	21	4	24	0	26	8	29	4	32	0	34	8	37	4	40	0	42	8	45	4	48	0	50	8	53	4	56	0	58	8	61	4	64	0	66	8
33	16	6	19	3	22	0	24	9	27	6	30	3	33	0	35	9	38	6	41	3	44	0	46	9	49	6	52	3	55	0	57	9	60	6	63	3	66	0	68	9
34	17	0	19	10	22	8	25	6	28	4	31	2	34	0	36	10	39	8	42	6	45	4	48	2	51	0	53	10	56	8	59	6	62	4	65	2	68	0	70	10
35	17	6	20	5	23	4	26	3	29	2	32	1	35	0	37	11	40	10	43	9	46	8	49	7	52	6	55	5	58	4	61	3	64	2	67	1	70	0	72	11
36	18	0	21	0	24	0	27	0	30	0	33	0	36	0	39	0	42	0	45	0	48	0	51	0	54	0	57	0	60	0	63	0	66	0	69	0	72	0	75	0

LOGS REDUCED TO INCH-BOARD MEASURE.

NOTE.—Find the length of the log in feet in the left hand column, and its mean diameter in inches (found by adding the two end diameters and dividing their sum by two) at the heads of the other columns, and trace them until they meet, and the figures so found will express the diameter of feet board measure of inch boards the log will measure.

L. Feet.	Diam. 12	Diam. 13	Diam. 14	Diam. 15	Diam. 16	Diam. 17	Diam. 18	Diam. 19	Diam. 20	Diam. 21	Diam. 22	Diam. 23	Diam. 24	Diam. 25	Diam. 26	Diam. 27	Diam. 28	Diam. 29	Diam. 30	Diam. 31	Diam. 32	Diam. 33	Diam. 34	Diam. 35	Diam. 36	Diam. 37	Diam. 38	Diam. 39	Diam. 40	Diam. 41	Diam. 42	Diam. 43
10	49	61	72	86	99	110	133	150	175	196	209	235	252	287	313	342	363	381	411	448	460	490	500	547	577	644	669	700	752	794	840	872
11	54	67	79	95	109	127	147	165	192	216	230	258	278	315	344	377	400	419	451	448	506	539	550	602	634	708	734	770	828	874	924	959
12	59	73	86	103	119	139	160	180	210	235	251	283	303	344	373	411	436	457	493	532	552	588	600	657	692	772	801	840	903	954	1007	1046
13	64	79	93	110	129	150	173	195	227	247	272	306	328	373	405	445	473	495	534	570	598	637	650	712	750	836	868	910	978	1033	1091	1135
14	69	85	100	125	139	162	187	210	245	266	292	330	353	401	439	479	509	533	575	622	644	686	700	766	807	901	934	980	1053	1113	1175	1222
15	74	91	107	134	149	173	200	225	262	285	313	353	379	430	469	514	545	571	616	666	690	735	750	821	865	965	1001	1050	1129	1192	1259	1309
16	79	97	114	142	159	185	213	240	280	304	334	377	404	459	500	548	582	609	657	710	736	784	800	876	923	1029	1068	1120	1204	1272	1343	1396
17	84	103	122	151	169	196	227	255	297	323	355	400	429	488	531	582	618	647	698	755	782	833	850	931	980	1094	1134	1190	1279	1351	1427	1485
18	88	109	129	160	178	208	240	270	315	342	376	424	454	516	562	616	654	685	739	799	828	882	900	985	1038	1158	1201	1260	1354	1431	1511	1571
19	93	116	136	168	188	219	253	285	332	361	397	447	480	545	594	650	692	723	780	843	874	931	950	1040	1096	1222	1268	1330	1430	1510	1595	1658
20	98	122	143	176	198	232	267	300	350	380	418	471	505	573	625	684	728	761	821	888	920	980	1000	1095	1152	1287	1335	1400	1505	1590	1679	1745
21	103	128	150	184	207	243	280	315	367	399	439	495	530	602	656	719	764	800	863	932	966	1029	1050	1150	1210	....	....	....	....	....	....	....	....
22	108	134	157	193	218	255	293	330	385	418	460	518	555	631	688	753	800	838	904	976	1012	1078	1100	1204	1265	....	....	....	....	....	....	....	....
23	113	140	164	205	228	267	307	345	403	437	481	542	581	659	719	787	837	876	945	1021	1058	1127	1150	1259	1322	....	....	....	....	....	....	....	....
24	118	146	172	211	238	279	320	360	420	456	502	565	606	688	750	821	873	914	986	1065	1104	1176	1200	1314	1380	....	....	....	....	....	....	....	....
25	123	152	179	223	248	291	333	375	438	475	522	589	631	717	781	856	910	952	1027	1109	1150	1225	1250	1369	1438	....	....	....	....	....	....	....	....

WAGES, RENT, BOARD, ETC.

The sum will be found heading the columns, and the days and weeks on the extreme left hand column. If the desired sum is not in the table, double or treble two or three suitable numbers.

TIME.		$2.50	$2.75	$3.00	$3.25	$3.50	$3.75	$4.00	$4.25	$4.50	$4.75	$5.00	$5.25	$5.50	$5.75	$6.00	$6.25	$6.50	$6.75	$7.00	$8.00
Days.	1	.36	.39	.43	.46	.50	.53	.57	.61	.64	.68	.71	.75	.79	.82	.86	.89	.93	.96	1.00	1.14
	2	.72	.78	.86	.93	1.00	1.07	1.14	1.21	1.28	1.36	1.43	1.50	1.57	1.64	1.72	1.79	1.86	1.92	2.00	2.28
	3	1.08	1.17	1.29	1.39	1.50	1.61	1.71	1.82	1.93	2.03	2.14	2.25	2.37	2.46	2.58	2.68	2.79	2.88	3.00	3.42
	4	1.44	1.56	1.71	1.86	2.00	2.14	2.28	2.43	2.57	2.71	2.86	3.00	3.15	3.28	3.44	3.57	3.72	3.84	4.00	4.57
	5	1.80	1.95	2.14	2.32	2.50	2.68	2.85	3.03	3.21	3.39	3.57	3.75	3.94	4.10	4.30	4.45	4.65	4.80	5.00	5.72
	6	2.15	2.34	2.57	2.75	3.00	3.21	3.43	3.64	3.86	4.07	4.28	4.50	4.73	4.92	5.16	5.34	5.58	5.76	6.00	6.86
Weeks.	1	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	8.00
	2	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	16.00
	3	7.50	8.25	9.00	9.75	10.50	11.25	12.00	12.75	13.50	14.25	15.00	15.75	16.50	17.25	18.00	18.75	19.50	20.25	21.00	24.00
	4	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	32.00
	5	12.50	13.75	15.00	16.25	17.50	18.75	20.00	21.25	22.50	23.75	25.00	26.25	27.50	28.75	30.00	31.25	32.50	33.75	35.00	40.00

READY RECKONER, 2,000 LBS. TO THE TON.

For Computing the Price of Coals, Hay, or any other commodity, sold by the Ton or part of a Ton. If the desired amount or quantity is not in the Table, add two numbers together.

Lbs	cts. 25	cts. 50	$ ct. 1.00	$ ct. 2.00	$ ct. 3.00	$ ct. 5.00	$ cts. 6.00	$ cts 7.00	$ cts. 8.00	$ cts. 9.00	$ cts. 10.00	$ cts. 11.00	$ cts. 12.00	$ cts. 13.00	$ cts. 14.00	$ cts. 15.00	$ cts. 16.00	$ cts. 17.00	$ cts. 19.00	$ cts. 20.00	$ cts 25.00	$ cts. 30.00	$ cts 40.00
3	....	....	....	....	...	.01	.01	.01	.01	.01	.02	.02	.02	.02	02	.02	.02	.03	.03	.03	.04	.05	.06
7	....	....	....	.01	.01	.02	.02	.02	.03	.03	.04	.04	.04	.05	.05	.05	.06	.06	.07	.07	.09	.10	.14
10	....	....	.01	.01	.02	.03	.03	.04	.04	.05	.05	.06	.06	.07	.07	.08	.08	.09	.10	.10	.13	.16	.20
20	....	.01	.01	.02	.03	.05	.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	.16	.17	.19	.20	.25	.38	.40
30	....	.01	.02	.03	.05	.08	.09	.11	.12	.14	.15	.17	.18	.20	.21	.23	.24	.26	.29	.30	.38	.46	.60
50	.01	.01	.03	.05	.08	.13	.15	.18	.20	.23	.25	.28	.30	.33	.35	.38	.40	.43	.48	.50	63	.74	1.00
70	.01	.02	.04	.07	.11	.18	.21	.25	.28	.32	.35	.39	.44	.46	.49	.53	.56	.60	.67	.70	.88	1.06	1.40
80	.01	.02	.04	.08	.12	.20	.24	.28	.32	.36	.40	.44	.48	.52	.56	.60	.64	.68	.76	.80	1.00	1.20	1.60
90	.01	.02	.05	.09	.14	.23	.27	.32	.36	.41	.45	.50	.52	.59	.63	.68	.72	77	.86	.90	1.13	1.36	1.80
100	.01	.03	.05	.10	.15	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	75	.80	.85	.95	1.00	1.25	1.50	2.00
200	.03	.05	.10	.20	.30	.50	.60	.70	.80	.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.90	2.00	2.50	3.00	4.00
300	.04	.08	.15	.30	.45	75	.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.85	3.00	3.75	4.50	6.00
400	.05	.10	.20	.40	.60	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.80	4.00	5.00	6.00	8.00
500	.06	.13	.25	.50	.75	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.75	5.00	6.25	7.50	10.00
600	.08	.15	.30	.60	.90	1.50	1.80	2.10	2.40	2.70	3.00	3.60	3.60	3.90	4.20	4.50	4.80	5.10	5.70	6.00	7.50	9.00	12.00
700	.09	.18	.35	.70	1.05	1.75	2.10	2.45	2.80	3.15	3.50	3.85	4.20	4.55	4.90	5.25	5.60	5.95	6.65	7.00	8.75	10.50	14.00
800	.10	.20	.40	.80	1.20	2.00	2.40	2.80	3.20	3.60	4.00	4.40	4.80	5.20	5.60	6.00	6.40	6.80	7.60	8.00	10.00	12.00	16.00
900	.11	.23	.45	.90	1.35	2.25	2.70	3.15	3.60	4.05	4.50	4.95	5.40	5.85	6.30	6.75	7.20	7.65	8.55	9.00	11.25	13.50	18.00
1000	.13	.25	.50	1.00	1.50	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.50	10.00	12.50	15.00	20.00
1100	.14	.28	.55	1.10	1.65	2.75	3.30	3.85	4.40	4.95	5.50	6.05	6.60	7.15	7.70	8.25	8.80	9.35	10.45	11.00	13.75	16.50	22.00
1200	.15	.30	.60	1.20	1.80	3.00	3.60	4.20	4.80	5.40	6.00	6.60	7.20	7.80	8.40	9.00	9.60	10.20	11.40	12.00	15.00	18.00	24.00
1300	.16	.33	.65	1.30	1.95	3.25	3.90	4.55	5.20	5.85	6.50	7.15	7.80	8.45	9.10	9.75	10.40	11.05	12.35	13.00	16.25	19.50	26 00
1400	.18	.35	.70	1.40	2.10	3.50	4.20	4.90	5.60	6.30	7.00	7.70	8.40	9.10	9.80	10.50	11.20	11.90	13.30	14.00	17.50	21.00	28.00
1500	.19	.38	.75	1.50	2.25	3.75	4.50	5.25	6.00	6.75	7.50	8.25	9.00	9.75	10.50	11.25	12.00	12.75	14.25	15.00	18.75	22.50	30.00
1600	.20	.40	.80	1.60	2.40	4.00	4.80	5.60	6.40	7.20	8.00	8.80	9.60	10.40	11.20	12.00	12.80	13.60	15.20	16.00	20.00	24.00	32.00
1700	.21	.43	.85	1.70	2.55	4.25	5.10	5.95	6.80	7.65	8.50	9.35	10.20	11.05	11.90	12.75	13.60	14.15	16.15	17.00	21.25	25.50	34.00
1800	.23	.45	.90	1.80	2.70	4.50	5.40	6.30	7.20	8.10	9.00	9.90	10.80	11.70	12.60	13.50	14.40	15.30	17.10	18.00	22.50	27.00	36.00
1900	.24	.48	.95	2.00	2.85	4.75	5.70	6.65	7.60	8.55	9.50	10 45	11.40	12.35	13.30	14.25	15.20	16.15	18.05	19.00	23.75	28.50	38.00

The Number of Bricks Required to Construct Any Building, Embracing Walls, from 4 inches to 20 inches Thick, Reckoning 7 Bricks to Each Superficial Foot.

EXAMPLE.—Required the number of bricks in 100 superficial feet of wall 12 inches thick. Under 12 inch, and opposite 100, you will find the answer, 2,250, the number of bricks required.

Superficial feet of Wall.	Number of Bricks to Thickness of					
	4-inch.	8-inch.	12-inch.	16-inch.	20-inch.	24-inch.
1	7	15	23	30	38	45
2	15	30	45	60	75	90
3	23	45	68	90	113	135
4	30	60	90	120	150	180
5	38	75	113	150	188	225
6	45	90	135	180	225	270
7	53	105	158	210	263	315
8	60	120	180	140	300	360
9	68	135	203	270	338	405
10	75	150	225	300	375	450
20	150	300	450	600	750	900
30	225	450	675	900	1125	1350
40	300	600	900	1200	1500	1800
50	375	750	1125	1500	1875	2250
60	450	900	1350	1800	2250	2700
70	525	1050	1575	2100	2625	3150
80	600	1200	1800	2400	3000	3600
90	675	1350	2025	2700	3375	4050
100	750	1500	2250	3000	3750	4500
200	1500	3000	4500	6000	7500	9000
300	2250	4500	6750	9000	11250	13500
400	3000	6000	9000	12000	15000	18000
500	3750	7550	11250	15000	18750	22500
600	4500	9000	13500	18000	22500	27000
700	5250	10500	15750	21000	26250	31500
800	6000	12000	18000	24000	30000	36000
900	6750	13500	20250	27000	33750	40500
1000	7500	15000	22500	30000	37500	45000

Facts for Builders.

1,000 shingles, laid 4 in. to the weather, will cover 100 sq. ft. of surface, and 5 lbs. of shingle nails will fasten them on.

One-fifth more siding and flooring is needed than the number of sq. ft. of surface to be covered, because of the lap in the siding and matching.

1,000 laths will cover 70 yards of surface, and 11 lbs. of lath nails will nail them on. Eight bushels of good lime, 16 bushels of sand, and 1 bushel of hair will make enough good mortar to plaster 100 sq. yds.

A cord of stone, 3 bushels of lime, and a cubic yard of sand will lay 100 cubic ft. of wall.

Five courses of brick will lay 1 ft. in height on a chimney, 8 bricks in a course will make a flue 4 in. wide and 12 in. long, and 16 bricks in a course will make a flue 8 in. wide and 16 in. long.

Cement, 1 bush. and sand, 2 bush., will cover 3½ sq. yds. 1 in. thick, 1½ sq. yds. ¾ in. thick, and 6¾ sq. yds. ½ in. thick; 1 bush. cement and 1 of sand will cover 2¼ sq. yds. 1 in. thick, 3 sq. yds. ¾ in. thick, and 4½ sq. yds. ½ in. thick.

Number of Bricks Required in Wall Per Square Foot Face of Wall.

Thickness of Wall.		Thickness of Wall.	
4 inches	7½	24 inches	46
8 "	15	28 "	52½
12 "	22½	32 "	60
16 "	30	36 "	67½
20 "	37½	42 "	75

Cubic yard = 600 bricks in wall.
Perch (22 cubic feet) = 500 bricks in wall.
To pave 1 square yard on flat requires 48 bricks.
" " " " " edge " 68 "

Proportions of Weight to Bulk.

The weight per cubic foot of various substances, and the number of cubic feet required to make a ton of each.

Material.	Lbs. per cubic ft.	Cubic ft per ton.	Material.	Lbs. per cubic ft.	cubic ft. per ton.
METALS.			STONE, ETC.		
Cast Iron	454	4.93	Slate	167	13.4
Wrought Iron	485	4.62			
Steel	490	4.6	WOOD.		
Copper, cast	549	4.08	Ash	48	46.
Copper, wrought	557	4.02	Beach	46	43.7
Brass	524	4.03	Cedar	35	64.
Lead	709	3.15	Elm	44	51.
Silver	654		Mahogany, Spanish	57	39.3
Tin	450	4.9	Oak, English	52	43.
Gold	1203		White Oak, American	45	49.
Zinc	439	5.	Live Oak	70	32.
Platinum	1218		Pine, Pitch	43	51.6
Mercury	848	2.64	" Yellow	38	59.
White Lead	198	11.	" White	34	66.
STONE, ETC.			Poplar	46	48.
Granite	165	13.5	MISCELLANEOUS.		
Limestone	165	13.5	Water, fresh	62.5	35.8
Marble	171	13.1	" salt	64.5	34.8
Paving Stone	151	14.8	Air*	.07529	
Sand Stone	130	17.	Steam†	.03689	
Brick	120	18.7	Cork	15.	149.3
Chalk	174	12.8	Olive Oil	57.	39.3
Clay	125	18.	Tallow	59.	
Glass	180	12.44			
Sand	95	23.56			

*At the level of the sea. †Not under pressure.

AGRICULTURE.

AGRICULTURE was not only the primeval occupation of man, and the pursuit which all men in all ages have followed, but it has been, is, and ever must be the mainspring of all industry. All classes and conditions are dependent upon it for their daily sustenance. Nothing can supply the place of the products of the soil.

Agriculture not only gives life to man and beast, but it is the foundation of all other business: all trades, all manufactures, all commerce; in short, all business is the result, directly or indirectly, of agriculture. When the labors of the husbandman are rewarded with bountiful harvests, the spindles multiply, the ships are heavily freighted, and money plentiful. The nation that relies upon agriculture as its main product is independent and prosperous.

The adaptation of agriculture to all ranks and conditions of society is wonderful. The king himself, without any loss of dignity, can be a farmer. Most of the presidents of the United States have retired from their high positions to the cultivation of broad acres, and were just as dignified, and the public as proud of them, as when in the presidential chair. Washington, Adams, Jefferson, Jackson, VanBuren, Clay, and Webster prided themselves as much upon their skill in farming as in their guidance of the affairs of State.

Many a professional man and merchant, with his head aching with the perplexities of his business, sighs for the quiet, simple pleasures of farm life. By living in the open air, and exercising his muscles most vigorously, and his brains more gently, he feels that the nerve-exhaustion and consumption of vital forces that have rendered life a burden will disappear, and sweet will be the sleep of labor.

It is a fact, patent to all, that the really prosperous class, as a whole, is the agricultural. The farmer is demonstrably better off, more independent, fares better, lodges better, and gets a better return for his labor than the worker in the city. We often witness the anomaly of thrifty farmers and starving tradesmen. The country must be fed and the farmer feeds it.

There is nothing that can prevent the steady prosperity of the American farmer but the combinations and "corners" of the middle men that force unnatural conditions upon the finances and markets of the country; the gains of the farmers are slow but sure; speculation is not legitimate farm business. Farm stock cannot be watered like railroad stock and made to expand at pleasure. Those who go into farming

expecting to make sudden fortunes will be disappointed. It is a highway to health and competence, but not to sudden wealth and luxury.

Agriculture is an art and a science, the individual the artist; the science consisting in the combined experience of the most successful men of the present and past ages. To avail one's self of the benefit of science, the farmer should be a regular subscriber and constant reader of agricultural and horticultural periodicals, and a purchaser of the best books bearing upon his business. His library should contain agricultural, scientific, and literary works; the result will be a model farm, with ample buildings, and all the best scientific helps in agriculture manufactured; his stock the best kept, and of the finest breed, and the envy of all.

It has been a matter of common observation to those who study the tendencies and movements of American society that there is, on the part of the youth in the country, quite generally, an eager, restless desire to get away from farm life and go to a city. To this class of young people Shakespere wrote more than two hundred years ago, that it was "better to endure the ills we already have, than fly to others we know not of," and this remark holds good in its application to-day to the subject in hand. The temptations and seductiveness of city life; its opportunities for self destruction by gambling, drinking, licentiousness, and a thousand other evils. The peculiar isolation and lonesomeness of living and moving among people whose names, even, you do not know, is far from as pleasant as might appear at first sight. No one, by looking merely at the outside, can begin to tell the amount of magnificent misery and gilded poverty which exists within city walls. Besides, there is as much drudgery to be done in the city as in the country, and, if anything, even more; the work is as hard and steady; while different from farm life, it tires one out just as soon, and it is impossible to find that rest and quiet found amidst the unexcitable country life, surrounded as they are in the city with the noise and confusion of passing multitudes.

The time was, when young business men could go into cities and do well, but that time has gone by and will probably never return, for the simple reason that our cities are overcrowded already, and there is no prospect of their growing less. Beware then, of that foolish fascination which the idea of living in the city is liable to exercise over every young heart and mind. With proper care and effort a country life can be made just as enjoyable as a life in the city, and much more healthy and profitable. How can it be done? By following out these suggestions: "Fill the farm houses with periodicals and books. Establish central reading rooms or neighboring clubs. Encourage the social meetings of the young. Have concerts, lectures, amateur dramatic associations. Establish a bright, active social life that shall give some significance to labor." Above all, *build*, as far as possible, in villages. It is better to go a mile to one's daily labor than to place one's self a mile away from a neighbor; the isolation of American farm life is the great curse of that life. Europe for many centuries was cultivated by people who lived in villages, and this is the way all farmers should live,—settle in colonies, instead of singly, wherever feasible or possible.

The man who ought to be the happiest of all men, is he who has a good farm, free from debt and under a good state of cultivation, with a cheerful, loving wife, and a number of healthy, bright, and dutiful children around to make music and assist in keeping his homestead.

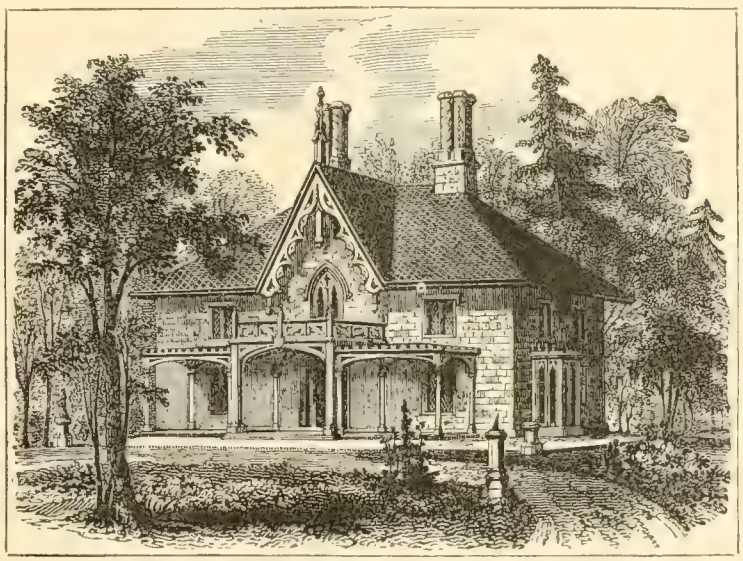
The capacities of American agriculture as a whole have only begun to be developed. There never was a time when, and never a country where, husbandry could be carried on to such an advantage as in this country.

SELECTING A HOME.

Human existence implies the necessity of food, raiment and shelter; a habitation is scarcely less important to life than the questions of food and raiment. Happiness in civilized countries largely depends upon the comforts and conveniences with which a home may be invested.

Every man in this country, especially if he has a family, should possess a home of his own, and generally this may be secured in a few years by industry, frugality and prudence. In a house of his own he feels not only that he is less dependent than when a renter of another's property, but there is an incentive to improve and beautify a home, to make it attractive, and thus add to its commercial value. This fact being granted, a few general suggestions relating to a selection of a place for a home and the construction of a house may prove of benefit to the inquirer.

The first thing to be considered is a selection of a site. This will depend upon the individual circumstances of each individual case. As our words are now addressed to farmers we shall confine our remarks to them. We have previously advised farmers to locate in villages, but when this is impracticable they should select a somewhat elevated location, as it has many advantages, among which may be mentioned attractiveness of view, salubrity of atmosphere, good drainage facilities, etc. Such a site should be easy of access, should be protected or sheltered from the northern or western winds and storms by higher grounds or belts of timber. Avoid the steep, uniform side of a hill closely surrounded by other hills equally high and steep; local and climatic considerations should govern the selection; do not forget that sunlight everywhere is highly necessary to health and comfort. Avoid the north or west side of a hill. Avoid the proximity of stagnant swamps, bogs, marshes, and sluggish streams, as no combination of circumstances can compensate the lack of a healthy atmosphere. When the surroundings or location of the place will permit of it, place the dwelling so that a view of a pleasant landscape may be had. If there are trees growing on the site some of them may be not only ornamental, but useful in furnishing shade to portions of the dwelling, or supplying a cool retreat on a hot mid-summer day. Trees to the north and west will screen the house from prevailing winds, but such trees should not be too plentiful or too near to harbor too much dampness. If the place be bare no time should be lost in supplying them with such varieties as are most desirable, where they should be planted with due regard for utility and artistic arrangement.



A CONVENIENT HOUSE IN THE ENGLISH OR RURAL GOTHIC STYLE.

A Convenient House.

It is not the design of the author to furnish details for the construction of houses; the wants, tastes, and circumstances of different persons are so varied in this behalf that an attempt to meet them in the limits of this book is impracticable. There are numerous excellent books on architecture which may be consulted with satisfaction and profit by those who intend to build, in which may be found information and explanations suited to each one's circumstances and taste. A well-defined idea of what one wants is necessary before beginning to build; then employ competent men to build it, tell them distinctly what is required, and see that they fulfill their contracts.

If an architect is employed do not leave everything to his judgment and discretion. A remark that has often been made will bear repetition here, to wit: that a man's wife is one of the best advisers in regard to planning a house. She is to be the presiding genius in the prospective home, she it is who is to make it an earthly kingdom, the place of all others on earth to be desired, a cheerful happy home.

The very first thing to be considered after the location is decided upon, is convenience and comfort. Never sacrifice these to appearance or fashion, or uniformity in a neighborhood; it is as easy and cheap to build attractively or neatly and preserve these primary requirements as to construct an unsightly and forbidding house.

There is no end to badly arranged and badly built houses, and the explanation thereof generally is found in the lack of sufficient knowledge of what is required in building on the part of both those who have had them built, and the mechanics who have constructed them; hence thoroughly mature a plan before commencing to build.

The next step is to see that the material put into the house is in all respects suitable. This is of great importance, as on it depends the expense of keeping the house in repair.

Ventilation must not be neglected. Science and experience have shown that impure and vitiated air is the most fruitful source of disease among mankind, hence the importance of thorough ventilation.

Gervasse Wheeler succinctly states the excellencies of a house to be:

1. Convenient arrangement.
2. Facility of construction and repair.
3. Perfect protection from heat and cold.
4. Adequate means of warming and ventilating.
5. Conforming with the scenery around.

Water Supply.

One of the first things to be considered in making or securing a house is the water supply, and wherever practicable water should be brought into the house and yard. A spring or running stream may be utilized for this purpose, and by the use of a hydraulic ram water may be forced into pipes leading to the various rooms of the house. Sometimes a spring may be found at an elevation which will permit the water to flow into the house without artificial help.

Water should not be permitted to stagnate; the air should be admitted to it freely by leaving cisterns exposed and uncovered; and these should be located and constructed where this object can be reached.

Hard water rendered so from excess of carbonate of lime, can be rendered soft by boiling sufficiently; also by sulphate of lime (gypsum), by carbonate of soda, by potash added twenty-four hours before the water is needed, or by exposing it in shallow tanks two or three days to the air. The remedy being so simple, persons living where the mountains, limestone, or chalk abounds, need not use hard water, nor need they drink it where gypsum is found.

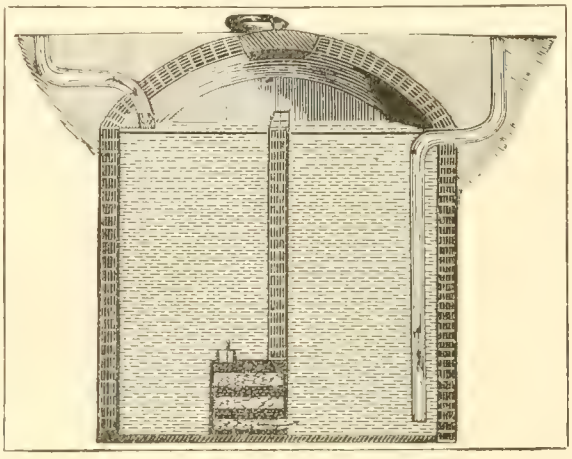
Easy tests of good drinking water are, that it readily dissolves soap without curdling, and that it cooks vegetables well, especially dry vegetables, as peas. Drinking water should be limpid, scentless, insipid (not flat or vapid), giving no sensation of weight when taken on the stomach, yielding but a slight precipitate to the nitrate of silver, the nitrate of barytes and the oxalate of ammonia. Its temperature should not greatly differ from that of the atmosphere.

Cisterns.

In many cases the water supply depends largely upon cisterns and reservoirs. There are many districts of country where springs and wells cannot be depended on for an adequate amount of water for domestic purposes; while seasons occasionally occur which are so dry that even in localities considered well-watered, persons are put to serious inconvenience from lack of water. Hence, cisterns are made to take the place of wells and springs, where the latter cannot be depended upon.

Brick and stone are largely used in constructing cisterns, though many prefer a cheaper method and nearly as efficient by sinking a hole in the ground and plastering with hydraulic cement directly upon the walls of earth. Plank is sometimes used, but this method is objectionable.

Water falling upon the roofs of buildings and conducted by troughs and spouts to the cisterns is necessarily impure. Dust, soot and other impurities in the air that have accumulated on the roofs are washed down in the first fall of rain, and carried with the water into the cistern. These impurities may be removed by filtration; no one need be in want of wholesome water if well-known means are employed to secure it. If the cistern is to be the main supply for water for domestic purposes, a roof of slate is preferable to all others; next to slate the use of shingles is recommended; the use of composition roofing material, into which pitch and coal tar largely enter, should be discarded, as they impart a disagreeable taste to the water, which is next to impossible to remove.



SECTIONAL VIEW OF A COMPARTMENT CISTERN.

It is a good plan to divide the cistern into two compartments by a wall of brick or stone, water tight, to within six inches of the bottom. In this space place a box with alternate layers of gravel, sand and pounded charcoal. One compartment will receive the water and the other contain it filtered and ready for use. The following engraving shows a sectional view of a cistern constructed after this method, and from it the description given is readily understood.

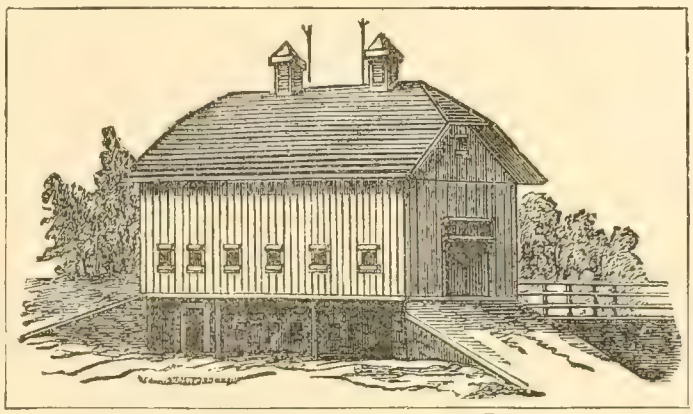
As cheap and easy a mode as the plan above given, is to take a cask holding perhaps a hundred gallons, and place by the side of the larger cistern and quite near the surface of the ground; an aperture in its bottom, over which is secured a large sponge, is connected by a good sized pipe of wood or clay, with the main tank. A third part of the cask is now filled with the charcoal and gravel, the conductor from the house is led into it, and the thing is complete. This has one great advantage: the filterer can be often and readily cleaned; while in the other case it is necessary to remove all the water and go down deep in order to accomplish the work.

To find the capacity of cisterns the reader is referred to the tables given at the close of this chapter.

Cellar, Store Room and Ice-Houses.

The practice of constructing cellars under dwellings is not one to be commended, as many dangerous fevers have been caused by the foul air from dark, damp and badly ventilated cellars; confined air without the purifying influence of sunlight soon becomes impure and unwholesome, and in a vast number of cases, cellars beneath houses serve as a reservoir for such impure air, which in addition is often loaded with the decomposing organic matters and foul gases given off by decaying vegetables. While admitting that they are very useful, the evil connected with them is of such magnitude that their entire abolition would prove beneficial to every household. Where practicable, a cellar for storing vegetables for winter use should be disconnected from the dwelling, or at least not directly beneath. Wherever located they should be kept clean, pure and well ventilated.

It has not been very long since ice was looked upon as a luxury, now it is everywhere considered a necessity of civilized life. It is not necessary to specify the numerous cases in which ice serves a useful purpose; notwithstanding its utility, there are many farmers' families where it is a stranger in summer. This luxury may be enjoyed by everyone at very little cost where the winters are cold enough to form ice. A few dollars expended for lumber will make a house that will last for years. A few days in winter when there is comparative leisure will afford time enough to procure a supply of ice sufficient for summer use.



BARN SUITABLE FOR SEVENTY-FIVE ACRES.

Formerly it was believed that an underground structure was necessary for the preservation of ice. Such is not the case; but it is sometimes more economical to build into the side of a hill, and this plan saves some labor in handling ice. Where this plan is chosen a hill facing the north is the best to select, and high enough to allow of complete drainage. Damp is more prejudicial to ice than heat, hence it is believed that ice-houses above ground are the best.

For a cheap ice-house the following is a very good plan: Make a frame ten feet square, of studding two by ten inches, and eight feet high. Board up on each side, and fill in with sawdust. Shingle the roof with a ventilator on the top; when the ice is put in, cover with sawdust to the depth of three feet. Bank up with dirt, which not only forms a drain but cuts off all chance of a draught of air from below. If sawdust can not be had, chaff or fine straw will answer the purpose.

In all plans for the construction of ice-houses the essential point to be secured is the use of materials which are non-conductors of heat. The next important point is to secure perfect drainage.

The collection and storing of ice does not require any elaborate description. The best time to save it is when it is perfectly solid, and before it has become honey-combed by warm weather. It should be cut or sawed out of the lake or stream in solid blocks, as large in size as can be conveniently handled, and it should be stored while the weather is favorable.

Barns and Other Buildings.

A very wealthy and distinguished Illinois farmer, when asked to point out his house, said, pointing to a large and commodious structure, "Yonder, sir, is my barn, it matters not about the house; the barn shows the status of the farmer." While not fully agreeing with this gentleman and believing that the family deserves the first and best attention, and no improvement gives such material value to a farm as a good, convenient and comfortable home, the author admits the force of the farmer's remark, in that one can judge the "status" of a farmer by the size and conveniences of his barn and out-buildings. Barns are useful rather than ornamental; sheds and out-buildings of every description should follow the same rule. It is pleasing to note the great change in the past few years, in the construction of farm buildings. The barn, from being a rough, unpainted structure, has grown to be something which has required some thought in its plan and details as well as beauty in its adornment. The following plan for a barn, taken from one of our leading agricultural papers, is of a size suitable for about seventy-five acres of land under cultivation on the system of mixed husbandry, but the size may be either expanded or diminished to answer all requirements.

The principal floor is so constructed that a loaded wagon can be driven in at one end, unloaded and then pass out at the other. The granary and horse stables are situated on one side; the bay, which will hold about forty tons of hay, is on the other side; in addition, there is room on the platforms over the floor and horse stables to hold about twenty tons more; the basement may be used for the storage of roots, which are drawn in on the barn floor and dropped down through a trap. The cattle pens are also in the basement.

Miscellaneous.

Of the implements most used only the very best should be used. Of animals, the best of all kinds should be selected, even at a greater cost than the more common; a farmer should take into account the use and profit of his stock; fancy animals are not always the best paying.

Manuring and draining must be faithfully attended to by the farmer who desires to make his farm pay.

J. J. Thomas, in his prize essay on "Farm Management," says the principal essentials to good farming are:

Capital enough to buy the farm and stock it well.

The judicious selection of a farm of a size compatible with these requisites.

To lay it out in the best manner.

To provide it well with fences, gates and buildings.

The selection of the best animals and the best implements that can be procured at a reasonable price.

To bring the soil into good condition by draining, manuring and good culture.

A good rotation of crops covering every part of it.

A systematic arrangement of all operations, so that there shall be no clashing or confusion.

Diligence.

Good management of business affairs, buying, selling, etc.

The following remarks on "How to Make the Farm Pay, and the Methods Employed," are from a successful farmer in Eastern Ohio, who has a farm of one hundred and fourteen acres, which have been under cultivation for nearly three-fourths of a century.

He writes: "My method of farming is as follows:—A sod is broken up in the Spring and well top-dressed with stable manure, then planted in corn. The next spring it is planted in oats, and in the Fall again top-dressed with a mixture of about twenty-five two-horse wagon loads of stable manure and one bushel of common salt. The ground is then thoroughly pulverized with the harrow and roller, and sown in wheat and timothy.

Of my crop of 1879 there were in wheat twelve acres, sown with the drill one and a half bushels to the acre, which produced five hundred and ten bushels of good clean wheat. The variety was the Clawson, obtained from the Agricultural Department, Washington, six years ago. Over two hundred bushels of this wheat I sold for seed. From sixteen acres of oats I reaped nine hundred and five bushels, having sown by the drill two bushels to the acre. I had four acres Hungarian grass, twelve acres of timothy, eight acres of clover, eight acres of corn in rows three and one half feet apart, with a drill dropping one grain every twelve inches. Corn planted in this way produces large ears in place of so many small ones. I had also four acres in potatoes, one acre of sweet corn. With the corn I planted pumpkins—in every other row of corn—about six feet apart in the rows, and had ninety-five loads.

I had sixty-five acres of my farm in the crops, and left forty-nine acres for pasture for the stock.

I keep six horses to do the work of my farm. Last year I raised eighteen Berkshire hogs and ten sheep on my place. My sheep raised fourteen lambs, and I clipped 110 lbs. clean washed wool. I have forty milch cows, which produce an average of eighty-one gallons of milk per day. This milk I send to town, where I receive an average of twenty cents per gallon. The produce of six days I sell, but that of the seventh I keep to make butter for the family. My cows are tied in the stable to be milked and fed. I have a small engine attached to the stable by which all the feed is steamed. This engine runs a machine which cuts all the hay and straw; also a pair of burrs which grind the corn all in the ear. Equal portions of this meal and mill feed are taken, mixed with the cut hay and straw, and all steamed together. The pumpkins are also steamed. Three pecks of this mixture are fed to each cow twice a day, after which a little dry hay. In the winter fodder is fed to them in the barn-yard in the middle of the day, at which time in summer they are turned into pasture.

My cow barn is fifty-four feet long, thirty-eight feet wide and twenty-four feet high. It is divided so as to hold four rows of cows—two rows facing each other, divided by a gangway from which they are fed. The room above I make use of for storing hay. I have the stable cleaned out every day, the manure and urine being run out together while the cows are absent; and a good bed of straw is allowed to each cow.

My grain barn is 60 x 40 feet and 24 feet high. It is a bank barn with a horse stable underneath, and is fitted up with a hay-fork underneath. The fences on my farm are mostly board and wire.

The following exhibit of the profits on my farm tell their own story:

PRODUCTS OF THE FARM.

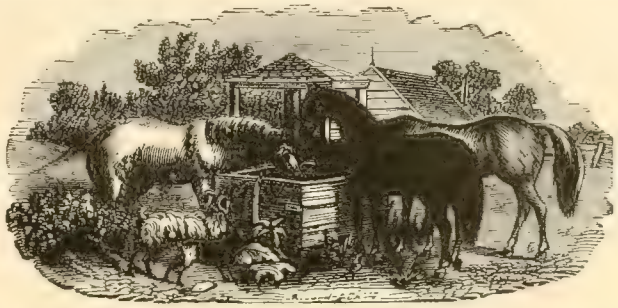
510 bushels Wheat,	12 acres	@	$1.00	$510.00
905 " Oats,	16 "	@	.25	226.25
15 tons Hungarian Hay,	4 "	@	8.00	120.00
24 " Timothy "	12 "	@	8.00	192.00
20 " Clover	8 "	@	6.00	120.00
11½ bushels Clover Seed			5.00	57.50
1,005 " Corn,	8 "	@	.22	221.10
500 " Potatoes,	4 "	@	.50	250.00
Sweet Corn	1 "			30.00
18 Berkshire Hogs		@	8.00	144.00
110 pounds Wool, from 10 sheep,		@	.35 per lb.	38.50
14 Lambs " " "		@	2.50	35.00
23,411¾ gallons milk, 40 cows,		@	.20 per gal.	4,682.35
				$6,626.70

EXPENSES.

2 boys @ $15 per month	$360.00
3 men @ 300 per year	900.00
25 tons Mill Feed @ $15 per ton	375.00
600 bushels Ear Corn bought @ 25c. per bushel	132.00
18 " Seed Wheat @ $1.00 " "	18.00
905 " Oats raised and fed @ 25c. " "	226.25
Hungarian Seed sown	6.00
Timothy and Clover Seed sown	28.00
40 bushels Seed Potatoes @ $1.00	40 00
Threshing and extra hands	44.00
1,005 bushels Corn raised and fed @ 22c	221.10
24 tons Timothy, 20 tons Clover @ ..... } 15 " Hungarian Hay fed ..... }	432.00
Repairs and taxes	215.00
	$2,997.35

Total receipts	$6,626.70
" expenses	2,997.35
Net profits	$3,629.35

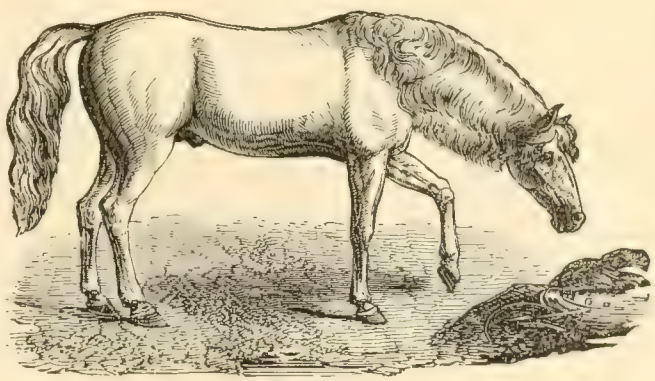
THE HORSE



OF ALL the servants of man, the horse assumes the front rank, on account of many useful qualities, great beauty and high intelligence. In war, as in peace, in the pursuit of pleasure as surely as in the prosecution of business enterprises, the horse is our efficient helper, and it is not too much to say, he is our friend. No person worthy to be the possessor of this noble animal will need an appeal from us to secure him fair consideration; but a few facts, well known to the accomplished horseman, may be conveniently arranged in this chapter, for reference, in any emergency that may arise, as an aid to the less accustomed in the horse-loving fraternity; so that the intelligent animal may have all the advantages of well-diffused information, in the treatment of the thousand and one incidents and accidents that will befall in the best regulated home. For the history of the horse we have no space.

Gentle training is essential to successful management. We have seen men in charge of horses using such brutality in handling them as seemed to demand, not only the interference of the police, but really an exposure in the pillory. Therefore our first words of caution are addressed to the importance of procuring kind grooms; men who will give care and generous treatment to the quadruped at all hours, with that firm hand that will not allow a doubt to rise in the brain they govern as to reasonable mastership.

Such a groom adds years to the life of the horse, and degrees of comfort that cannot be stated to the daily experience of the family, to which he becomes attached.



THE ARABIAN HORSE.

The horse should be accustomed to the duties that are afterward to be exacted from him, by slow degrees. Then the work is never irksome. Work is natural. If the animal were allowed to run at large unbroken, the amount of exercise that would be voluntarily taken, as a rule, would be found in excess of that necessary to train for a 2:40 gait. The difference is as between the playground and the gymnasium. In the one instance your boy exhausts himself by violent running and jumping; in the other his muscles and tendons are trained by a master to the fullest development without needless fatigue. The cases are parallel.

Veterinary practice has greatly improved of late years, and many ailments that affect the horse are so critical as to demand professional treatment on the instant of discovery.

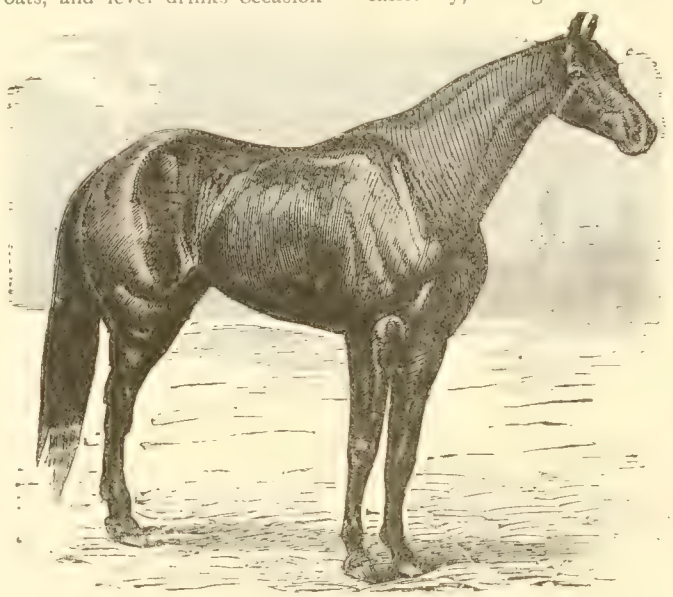
Other ailments are so trivial that your groom, if a man of average intelligence, may safely be trusted for all the medication that is required.

Influenza is troublesome and dangerous, and if severe the surgeon must be sent for; but sometimes that functionary lives at a distance, or, being near, he is still so much engrossed by prior claims as to make it expedient that you should be instructed.

Discard all advice as to bleeding, keep up the strength of the animal, see to the ventilation of the stable, preserve the warmth of the patient with clothing, and as soon as possible obtain advice.

Roaring and whistling are incurable results of influenza, which must be avoided.

Common colds are hardly to be distinguished from influenza in the earlier stages, and the same rules apply; but a bran mash with scalded oats, and fever drinks occasionally, with rest and quiet, will restore healthful conditions.



Congestion of the lungs comes on with shivering, working of the flanks, and quick, hard breathing. This is a case for the surgeon, as delay may cost a life. See to it.

In colic the animal suffers from distension of the bowels and much pain at intervals. When there are no intervals the ailment is inflammation. In either case call the doctor. Avoid gross feeding and you save from pain and danger.

Thrush arises from one of three causes: a habit naturally gross, gross feeding, or filth. The symptoms are foul discharges from the frogs of the feet. Give an opening dose at once, let the diseased horn be removed, and use common salt as an exterior application every two days. The feet must be kept dry and clean. Much will depend on the state of the stable and occasional alteratives.

If your horse comes down on his knees, let the wound be washed with warm water to reduce inflammation and take away foreign matter, then poultice well, and with care the hurt will disappear. Drive with a tight rein afterward.

Wounds of various kinds may be treated in much the same way, with cooling lotions if the hurt is severe. Biniodide of mercury is a good dressing to reduce consequent swellings. When a wound is of such a kind as to require such treatment, wash well, then sew, and dress with arnica and water.

Swelled legs and cracked heels demand tonic treatment. After a summer at grass these symptoms are to be looked for, if the animal is put to continuous work; but an alterative and good diet, with steady exercise, will correct it. Cracked heels call for gentle exercise, a dry stall, good washing, and application of glycerine ointment; that treatment long continued will remedy most cases.

Splints are bony enlargements, usually on the inside of the fore legs. Rest and a strong blister will be the cure. Lameness arising from over work will abate with rest only. Curbs need not be described. In bad cases firing is necessary, but when the hock is well formed rest will give relief. Use a cooling lotion and biniodide of mercury externally, and an occasional dose of medicine.

Strains occasionally affect the tendons and ligaments of horses that are put to violent exercise. Treatment must depend on circumstances, but usually a dose of physic occasionally, cooling lotions locally applied, and a long rest will meet the case. In severe strains strong blisters and even firing may be indispensable. Bone spavin comes from strain and very hard work. It is an osseous, or bony deposit, inside the joints of the hock. Treatment should commence as soon as the first symptom appears, as, for instance, the horse always starting lame. If the matter is neglected the mischief soon grows incurable, but in the early stages much may be effected by proper handling. Blistering and firing are potent remedies, but they are not invincible. Much depends on the part of the hock affected. Even though a cure may be impossible, it is something to know that alleviation follows early use of our remedies.

Corns often result from bad shoeing, and in that case the farrier has much to answer for. The corn indicates injury to the sensible sole, to which horses with weak and low heels are specially subject. Treat as soon as found and corns will yield; but when of long standing there is no cure. Much may be effected by way of mitigation. The corn may be pared, shoes adapted to avoid pressure on the heel, and many ointments are vouched for as peculiarly useful in lessening inflammation and pain. Some preparations have the effect of promoting the growth of horn, and they may be had recourse to, if required. We do not suppose that we have enumerated all the ills to which horse-flesh is heir, but the more common have been indicated, and every lover of the horse will welcome our few instructions.

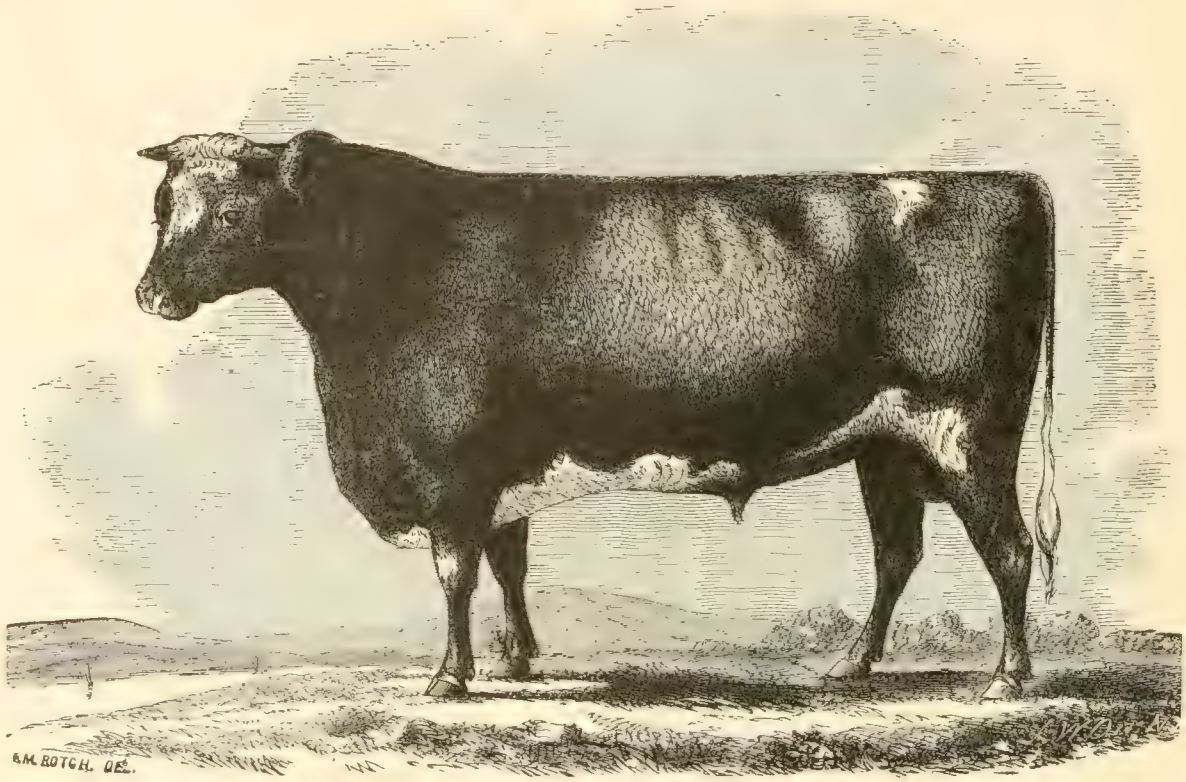
HORNED OR NEAT CATTLE

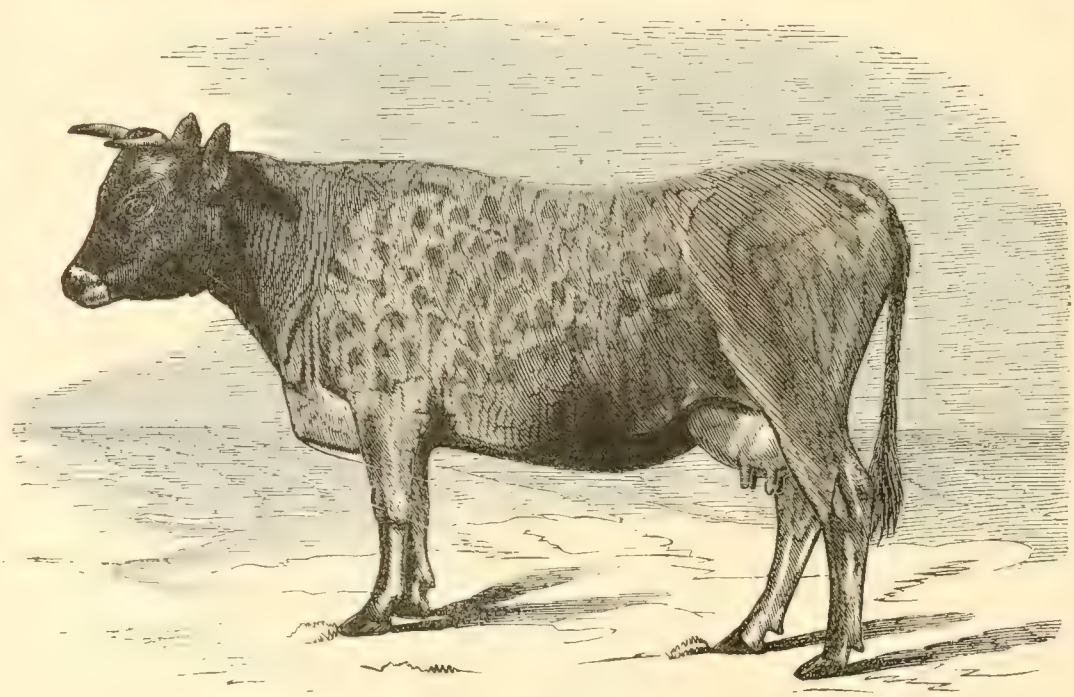
THE milky mother of the herd must have first thought under this head, and it is matter for regret that we are restricted in our brief dissertation to such items as are sure to be of practical value to the possessors of cattle who look to these pages for information and instruction. We could not, if we would, enter on debatable ground as to breed most profitable; the testimony is too conflicting, and honest convictions are too strong for the writer to venture to decide "where doctors disagree." There was a time when farmers in this country were not inclined to attach due importance to the selection of the founders of their herds. Happily, that time has passed away.

THE AYRSHIRE COW.

The best breeds come from England and Scotland, where about one hundred years ago a wealthy farmer, Bakewell, persuaded his neighbors that it would pay to breed only from the very choicest animals. The chief varieties come under the heads of the Shorthorn, divided into Holderness, Northumberland, Durham, Yorkshire, and others; the Cheshire, Lancashire, Devon, Hereford, Galloway, Highland, Ayrshire, Shetland, Welsh, Irish, Alderney, and Suffolk. Long after it was universally accepted that the sire should be thoroughbred, farmers adhered to the curious heresy that it did not matter as to the dam whether she was of good blood. That idea is now exploded. There is, of course, danger in "breeding in and in," but no such necessity arises to make it indispensable that the choicest strains should be crossed with inferior blood. A wise eclecticism can always find desirable qualities that may be incorporated with the best blood on the ranch, and the interchange should prove of mutual advantage.

Cows near calving time must be watched day and night by an experienced herdsman, and should not be kept in too high condition; if they are too high, they must be bled and dosed with salts about ten days before the time. Dose: one pound of salts, thoroughly dissolved, with about two ounces of ginger. Four to five pints of blood may be taken, but wise care dispenses with such measures generally. Milk fever is marked by the udders becoming hard, and must be treated by early stripping the milk from the part most affected, and rubbing gently with warm water and soft soap. Hoove is occasioned by giving too much rich food in





FINE JERSEY COW.

some cases, but it arises also from poorly-fed animals being kept in undrained meadows on coarse but copious diet. Lime water and turpentine may be administered in the early stages, before the insects that cause irritation have gone beyond the windpipe, but after the lungs are affected, no remedy can be trusted. The parasite is seldom found on upland pastures, but is breathed in on undrained lands.

Pleuro-pneumonia is a disease that demands veterinary skill on the instant of discovery, and a seton in the dewlap is said to divert inflammation from the chest. The infectious nature of the attack makes it important that the animal first affected should be isolated from the rest, and the utmost care is required to house and tend the herd—the well as well as the sick—through the infection. For the rest, be guided by the surgeon.

Choking can generally be relieved by mechanical pressure of the hand, or by the use of a proper tube, such as is employed to enable the animal to expel wind from the stomach when the ruminating process has been stopped by too rapid mastication. In either case action must not be delayed, or death will result from suffocation or distension. Linseed oil may sometimes be administered with success in distension, and we have known cases in which relief followed the puncture of the stomach with a penknife. Care in feeding obviates much suffering.

THE DURHAM OR SHORT-HORNED BULL.

Calves are often attacked with diarrhœa, and in such cases a tonic with a small dose of opium will suffice. In cases of garget in young calves, put a seton in the dewlap and house the sufferer warmly. Inattention and want of proper nourishment may speedily beget a terribly infectious malady. Care and precaution are better than cures.

Animals are sometimes found foaming, refusing food, and evincing lameness. These are the signs of "foot and mouth disease," attended by slow fever. A pound of common salt may be dissolved in a quart of water, with from one-half to three-quarters of a pound of Epsom salts, according to the strength of the animal, and the dose must be administered at once. Wash mouths and feet with a solution of blue vitriol, one ounce to a gallon of water, twice a day, and after the first drench give each day while the attackcontinues two drams of chloride of potash in the water.

The diseases of the male and their treatment differ in few particulars from those already described, and usually in such cases, unless the owner is a man of large experience, the veterinary surgeon must be consulted.

Some of our readers may desire to purchase a bull for the advantage of their own stock, and for the accommodation of the neighborhood, for it is an absolute calamity to be surrounded by poor cattle. With the utmost care possible there is always danger of an undesirable cross marring the plans you have laid. There can be no picture of a perfect animal that may not differ in some particular from the creature that has been perhaps the ideal of some one of our readers, so we premise our sketch by quoting the old saw: "A good cow is never a bad color." What is true of one gender will apply also to the other, and to other particulars in some degree.

Select an animal with a head rather long, the muzzle fine, eyes prominent and full of life, ears long and thin, the horns wide, the neck small and fine where it joins the head, and rising from the shoulders with a graceful curve. The shoulders should be broad, but not too broad at the junction with the neck; chest open, projecting well before his legs; forearms muscular, tapering to the knee joints; the legs clean, handsome and fine boned; no hollows between the shoulders, chine and chest alike full; plates firm, sustaining the belly so that it does not droop below the line of the breast; the back broad, straight and flat, promising a good sirloin in his progeny; the ribs symmetrically rising from each to each, until the last almost joins the hips. The idea we seek to convey is expressed by some writers, calling the body "the barrel." The hips must be wide to uphold the frame that we have partly described; there must be no angularity; a full, round outline is needed at once for beauty and power, a little higher than the back on which "Priscilla, the Puritan maiden," might have ridden from church with the bridegroom, *John Alden*, "in the old colony days," of which Longfellow has written so eloquently in *Miles Standish*. The quarters from the hip to the rump may be long and tapering from the hips—everything, in fact, indicating that the breeder has used the best models of bovine beauty and might to present his idea of the bull. The turls or pott-bones will not protrude, the rumps will be close to the tail, and that will be a broad, well-covered addendum, in a straight line with the spine, falling in a pleasant curve toward the ground, as if its descent told of a reserve of power that might carry the caudal member in any position with equal ease.

SHEEP.

THE world is under obligations to Bakewell for improving the condition of the sheep. There are two qualities for which the sheep is reared—to give meat to our tables, and wool for domestic uses. High breeding aids both objects. The Tartar breed has two claims: rapidity of reproduction, and fine flavor. Long-wooled sheep are mostly valued by manufacturers and farmers because length of staple gives the best price. The new Leicester breed of sheep (name pronounced Lester) heads the list. They are symmetrical, carry much meat, and their wool is excellent. This was the breed to which Bakewell gave special care, and his prevision determined others to carry out artificial selection. The wise breeder can produce any variation of form that is found desirable.

Other varieties, established on Bakewell's methods, surpass the Leicester; still the praise belongs to the master who showed the way. The varieties of the Dishley breed are the New Leicester, Lincolnshire, Teeswater, Devonshire Notts, Romney Marsh, and Cotswold. Cheviot and Southdown sheep are short-wooled, not large, but hardy, calculated for mountainous or exposed regions.

Black-faced sheep are profitable on the moors in England. Their faces, and frequently their legs, are black, and they have large, spirally-twisted horns. Their meat is good, and they are hardy, but do not fatten early, and the wool is coarse and shaggy. The Merino is the leading favorite. It gives a quality and flavor of meat that is literally unsurpassed.

Merino wool has a fineness and felting quality not found in other breeds, and the weight of wool is greater. It is for the wool, chiefly, that the sheep farmer cultivates his flocks; shearing is a yearly operation, and eating is final. The sheep that shears advantageously is, therefore, the most profitable, and in that respect there is not a question as to the claims of the Merino. The breed is hardy, and accommodates itself to country and diet. The breed sprung from presents of "Costal ewes and rams," given by Edward IV., of England, to the kings of Arragon and Castile, in 1464; sheep were then royal donations. The daughter of John of Gaunt, in 1390, had as dowry a flock of sheep. The flocks in Spain developed such importance that all European nations had recourse to them to improve their breeds. The German states obtained aid in 1765; ten years later Hungary procured Merinoes; then, after eleven years, France concluded that its flocks should be reinforced by a Spanish alliance, England accepting a contribution in 1788, and repeating the dose in 1791. The "Costal ewes" were Cotswolds, but the spelling is modern.

Diseases in sheep are not numerous, in comparison with the maladies of other domestic animals, but they are severe Scab, a kind of itch, arises from an insect in the skin, and is peculiarly destructive. The diseased animal seeks to relieve itself of an intolerable itching by rubbing against every projection; and, wherever it rubs, the icarus remains to carry the infection through the flock. Sometimes a malicious sheep-owner will let a scabby sheep run at large over ground occupied by a neighbor, and the consequences may be ruinous.

Governments in the Australian colonies were compelled to make the care of flocks, in this particular, a state affair. Infected districts were cut off from intercourse with other parts of the colonies, so far as sheep were concerned. No flocks could travel from them until the government inspector was satisfied that the disease had been eradicated, and gave his certificate The treatment consisted of severe cleanliness. The flocks were sheared, then washed thoroughly, and treated with an ointment, the composition of which is, in some respects, a secret to the uninitiated; and that course was persevered in until mercury or arsenic in the composition had destroyed the itch insect. When that result was assured the district was proclaimed clean, and flocks might travel.

The insect did not affect general health in the animal further than was inseparable from uneasiness, inducing poor condition, and the wool was less valuable as well as less in bulk. Precautions taken by the government stamped out the infection and compelled care in the management of squatting runs, so that subsequent developments have been easily handled.

Foot rot customarily makes its appearance in flocks ill cared for—allowed to graze on poorly drained lands. The sheep suffers greatly, and falls into poor condition otherwise. A good shepherd knows the consequences that must, in a majority of cases, follow perseverance in feeding over ill-drained meadow or swamp; but sometimes that cannot be avoided. Treatment: Remove to better conditions as soon as possible, and apply to the affected feet a preparation of tobacco, which tones up the diseased members. Foot rot will always yield to treatment if taken in time.

The sheep is subject to the attacks of a parasite that is known as the hydatid, which becomes incorporated with the vital economy of the animal, and meat so diseased is often sold, to the great danger of human life. The parasite is then found in man, more frequently in the liver than elsewhere, and unless the constitution of the person is above the average in strength, he must succumb. Science has not yet devised means to destroy this parasite, when it is able to extend its ravages to man.

THE FULL-BLOODED MERINO SHEEP.

HOGS

THE China hog is the great favorite. It fattens easily, and is very tender. When in high condition, the head is scarcely distinguishable, save the extremity. The meat produced by fattening is not as desirable as that of more moderate dimensions; but fashion is everything, and the welfare of the consumer will be no more considered than the comfort of the swine.

The hog was originally brought from Asia, in varieties, the white having the advantage in form, but the black more hardy and prolific. Crossed with other breeds they give good varieties. A mottled race is valued.

When Captain Cook visited New Zealand, he landed pigs, and years later the earlier settlers found the islands supplied with wild hogs, terrific fighters, that afforded the colonists sport as well as breakfast bacon. Cut off from civilization, the animals had forgotten the art of fattening for market; were long-legged and meager, run to muscle and sinew, and had no ambition to decorate the table. Civilization is easily lost.

The Berkshire hog is reddish brown with black spots, much valued as a producer of bacon. Almost innumerable crosses afford varieties that carry a great deal of choice meat. If kept clean they are usually free from serious diseases.

The Suffolk breed is strong, and gives rapid increase, highly esteemed as a cross for the Berkshire or Dishley families, are soon ready for market, and their bulk tells where beauty might fail. Woburn hogs are white and well formed, with very great readiness to lay on fat. Their limbs and heads are small.

There is a very popular breed known as the Siamese, not large, but symmetrical, short-limbed, belly almost touching the ground, back hollowed, bristles softer than the average, generally black, and skin copper color. Their origin is told by their name. They are not hardy.

Hog does not always signify pig in England. In many parts it denotes a young sheep—a lamb in its second year. Most old religions forbade the use of swine flesh, and diseases are traceable to the use of pork. The Egyptians, among whom Moses was educated, would not tolerate its use; the Jews to this day abominate it; Mohammedans will not touch it; nor is it consumed by Hindoos; nor by Boodhists. Swine are, notwithstanding, an excellent means for converting low-priced, bulky farm produce into a commodity that can be transported readily to generally profitable markets.

We have breeds peculiar to this country. The Chester Whites originated in Pennsylvania, and the Magic stock was founded in Ohio. Critics assert that the two breeds are not established, and possibly their qualities may be lost in repeated crosses, but it would be difficult to find one breed among those most pronounced that would not revert to the original stock, as pigeons revert to the rock pigeon, if left without intelligent supervision. Pigs left on the islands by Cook reacquired the ancestral qualities; and more than one instance in this country offers the same lesson. Wild boars in Florida, clearly descended from domestic stock, present all the old-time characteristic features that made the boar formidable in Europe: Form of body, ears and tusks, black or red color, and bristly crest on the back. Natural marks remain deeply embodied in the nature of the hog, ready to assert their strength immediately the animal is left to renew the struggle for existence under conditions that demand all his natural powers.

Great cleanliness is desirable in all departments of hog rearing, and in establishments where that condition is insisted on the pig is liable to few diseases. Measles are said to have been bestowed on us by using pork as food; our knowledge on the subject is too limited to speak with certainty.

For many centuries in Europe there were no organized endeavors to guard the community from daily purchase of unwholesome meat, and it is safe to assume that millions were sacrificed in that thriftless method of neglecting humanity; and it is more than probable that many *remnants* of disease are inherited by us in consequence of the ignorance of our ancestors. The vast aggregate of swine in the United States to-day, considerably over 30,000,000 head gives us a vital interest in all hygienic questions bearing on swine rearing, and it is gratifying to know that our increase of information and broader scientific insight promises large immunity from serious maladies.

A fearful disease, known as *trichiniosis*, was observed in 1862, in Saxony, and the following year at Hettstadt, arising from a minute worm in human muscle. In the year 1864 a similar epidemic broke out in Cheektowago, N. Y. Prof. Owen, the great anatomist, in 1835, discovered the minute worm known as *trichina spiralis*, a parasite of the hog, to be feared where the animal is reared without cleanliness, and almost certain to rage where the meat is eaten uncooked, or not cooked sufficiently. In many localities that custom prevails, and nothing can be done in the premises beyond warning against the practice fraught with suffering and danger. In earlier centuries, when the microscope was unknown, mysterious plagues carried off millions, certainly in consequence of dirt, and ignorance, superinducing parasitic assaults, similar to *trichiniasis;* and we cannot too zealously use the means at our disposal to protect posterity from like afflictions.

POULTRY.

POULTRY comes from the French *poule*, signifying hen, from which comes our pullet, a young hen. The word covers all domestic fowls reared for useful purposes. Originally the barn-door fowl was understood and implied, but now guinea fowls, turkeys, geese, ducks, and even pigeons, come under the same head. We glance at a few leading varieties.

The Shanghai, a tall, up-standing bird, attains great size, the male having exceeded twelve pounds at fifteen months, and the female scarcely less. They are good layers, and good investments, apart from style.

The Bankiva, from Java, may be a variation from fowls taken there by the Dutch. The male bird is the handsomer. The barn-door fowl is now crossed with so many varieties that our ancestors might well be astonished at the sight of the birds coming under that cognomen in our farm yards. Game birds, reared for fighting qualities, might more appropriately have our care because of the superior meat.

The Dorking is fine, almost always white in both sexes, of great size, juicy and tender.

The Chittagong or Malay, is large boned and long legged, but the meat is good, and their eggs are much valued for size and flavor; feathers, dark brown or black, with yellow streaks; cross well with the common fowl.

The Jago, or Paduan, is a variety of the Spanish. A rich black with, in some instances, a few white feathers on the breast. The male is majestic, and numerous sections of the family are noted for qualities that make them welcome. They scarcely ever cease laying.

Crested fowls are mostly variations of the common type, the chief peculiarity being the crest or tuft, such as is seen in Polish birds. The hens produce many eggs.

The Bantam is valued more as a curiosity than as an investment, but is not without advocates.

The Rumkin has no tail, its comb is seldom indented, wattles a blood color, feathers ranging from dusky orange to beautiful variegations. The frizzled variety has all its feathers curled, is rather wild, but its delicate flavor justifies a little extra care. The Siberian, sometimes called the Russian, has tufts springing from each jaw, and a silky tuft springs from the back of the hen's head. Colors vary, but they are usually handsome. The Barbary breed is distinguished by a tuft on the crown. The Java seems to be a cross between the Malay and Dorking. The Cochin-China excels most breeds in size and power.

To make hens lay during the winter, and keep them laying, keep them warm and dry, and give them hot food, such as boiled potatoes, and meat occasionally.

There are not many varieties of the turkey, but they vary in color and size. The black are found most hardy. The hen turkey cannot train her chicks to feed themselves, hence it is necessary to employ a keeper for the young broods. The same kinds of food as are given to the smaller poultry will serve; but they can be depended on to feed themselves if allowed liberty.

Geese are not remarkable for variety. The Toulouse attains great dimensions, is slaty, with brown or black bars, inclining to a dark brown on the head and back. The Chinese consists of many varieties, not so large as the last named, but as good eating, and as easily fattened. The common goose is divided into white and grey, but the distinction is arbitrary, as eggs of the same laying will, in almost every case, give both white and grey.

The goose will lay more eggs if relieved from hatching, and that can be arranged by allowing a turkey hen to discharge that function. Some breeders employ artificial incubation, but that is attended with great outlay and trouble. Boiled oats three times a day, with plenty of milk, will fatten green geese, or after maturity; but they are voracious, and should be regaled with coarse diet, or allowed to shift for themselves.

Ducks are distinguished as Rouen, Aylesbury, and Muscovy. There are sub-varieties, but we do not stop to note every feather. The Muscovy is voracious, but prolific, and easily fattened, and may be trusted to look after its own dietary scale. The same may be said of other breeds. Ducks are fattened in Normandy, as geese at Strasbourg, to increase the dimensions of the liver, and if the poor birds are suffocated in the process, the breeder does not lose, as the defunct is bled, and the meat is as good as ever.

When molting, the bird must be well fed, and an addition of cayenne pepper is sometimes called for. They must also be kept warm and clean. If the feathers drop at other times, add to former precautions the use of sulphur and nitre, mixed with butter, as alteratives.

Pip is a disease that thickens the tongue until breathing is difficult. Give plenty of clean water, anoint the swollen tongue with oil, and administer pills of scraped horse-radish, garlic, and a small portion of cayenne. Roup is another diseased condition, not unlike influenza. Dirt, severe cold, too hot feeding, and want of exercise produce roup. Such stimulants as mentioned may be administered. The bird must be kept warm and quiet. Some successful breeders use pellets of powdered gentian, 1 oz.; powdered ginger, 1 oz.; Epsom Salts, 1½ oz.; and flour of sulphur, 1 oz., made up with butter. Other diseases are comparitively rare, and may generally be treated with some gentle stimulant, added to care for the warmth and cleanliness of the patient.

DOMESTIC PETS.

THAT is a hard, comfortless home in which there are no domestic pets. Even a cat may be a redeeming feature, with all the suggestiveness of use and wont looking toward old maidhood. The aristocratic hairdresser that could not shave a sweep, defended exclusiveness, saying: "We must draw the line somewhere." That is our reason for excluding cats.

Squirrels, dormice, white mice, and other little creatures are too rare to be granted more than a word. Their cages ought to be kept clean and sweet, and the revolving cylinder part of the fittings of a squirrel's cage should most assuredly be banished from the homes of the captives, who realize in them ingenious tortures. Give the little fellow a large cage and a branch of a tree, and you deserve his gratitude. Neither squirrel nor dormouse shows to advantage. They are imprisoned, not domesticated, and would gladly change all the comfort and security you bestow for one day of liberty and danger in the woods. Mice are really domestic; in many houses too much so for the comfort of families, and when wanted as pets they have no traditions of the woods to make the palace cage a prison. They are found white, perfect albinos, and also grey and mottled. Some of their keepers assert that they sing.

Canaries were first brought from Madeira and the islands whose name they bear early in the 16th century, and they became royal favorites. Accustomed to a warmer and more equable climate than ours, it is certain that, except in confinement, they could not live in this country. In England there are canary societies, formed by the owners, not by the birds, and out of these associations have arisen crosses about which connoisseurs wax eloquent. There are as many differences of color as of note, and all are beautiful.

Canaries want change of food. A little bread soaked in milk, not boiled, unless as medicine, a little green food, and besides the seed, which should be the best, a little ripe fruit or rice pudding, or some such delicacy. If the bird is sick, a red rusty nail in water is a tonic.

For hoarseness give Spanish licorice, and if any malady passes your birdcraft, seek a bird-doctor with more knowledge; but meantime it is safe to put the little fellow in a warm bath, holding him tenderly, the temperature about ninety-six degrees, immersion all but the head, to continue three minutes. After the bath see the bird placed where it will not be chilled, in the sunshine, or near the fire.

You observe that the claws grow rapidly and his movements are impeded. Take the little creature in your hand and pare the claws carefully; run no risk of drawing blood. The same rules apply to other birds.

Nestling birds require feeding every two hours, and generally go to sleep when their wants are supplied. The best diet is bread soaked in water, squeezed till nearly dry, mixed with rape seed newly scalded with boiling water, and let cool. The mixture cannot be too finely chopped, and baby birds seldom hurt themselves indulging too freely. They should be covered warmly for the night.

Nearly all birds can be trained to know and trust the hand by which they are fed, more especially if accustomed to the same presence from nurslings.

Bullfinches should have no sweets. Rape and canary seed, with occasional resort to green food and hemp seed, will keep them in excellent health. They can be taught airs, and are very quick observers in most matters. The Germans train them in classes, a boy playing a bird-organ, but best trainers depend on whistling. They can be taught amusing tricks, but the purchaser needs acquire the art of the professor and continue practice after molting, as that process weakens the memory of the feathered favorite.

The goldfinch is more active, and has more genius for mechanics. It is easy to believe the little actor takes pleasure in matinees of which he is the star. Epilepsy is one of his weaknesses. When seized his head should be plunged in a cold bath, the body also immersed once or twice, after which low diet of lettuce seed and thistles for several days. The goldfinch is a good mate for the canary, but apt to destroy the eggs.

In Germany the siskin is much valued as a cage bird. It is smaller than the canary, and not loud, but the note very sweet, and the captive very teachable—a kind of eccentric comedian among birds. It mates well with the canary, and may be fed in the same way, but more abundantly.

The chaffinch is so great a favorite in Germany that a proverb says, "A chaffinch is worth a cow."

The best way to keep birds is to give them a room, as an aviary, with miniature trees as perches, and double doors to prevent escape. Attention to cleanliness is essential, and care in diet will render medicine a rare necessity.

The canary originally brought from the islands was green. Almost every plumage may be obtained by crossing.

Sparrows are not great pets in this country, but though not rare, they are handsome creatures and very cunning.

The indigo bird, the Dominican and Widah are beautiful. The first is native in Carolina and New York; the latter are African, but naturalized. The tail of the widah is long and graceful. The Virginian nightingale is cardinal red, with feathers glossy black about the head and neck.

In addition to the diet of the canary a few meal worms or other such insects are needed for perfect vigor.

Parrots, paroquets and cockatoos are gorgeous birds, strong and easily trained, capable of imitating the human voice with some accuracy. Many chapters might be written on the dove, the pigeon, the nightingale, wren and robin, but space is wanting.

Government Land Measure.

A township consists of 36 sections, each 1 mile square; a section contains 640 acres; a quarter section, ½ mile square—160 acres; an eighth section, ½ a mile long, north and south, and ¼ mile wide—80 acres; and a sixteenth section, ¼ mile square, 40 acres, which is the smallest sized tract, except fractions, sold by the government. In the surveys of Public Lands of the United States they are laid out in ranges of townships which run longitudinally, and are numbered on the maps in Roman characters, or capital letters, according to their proximity to the northern border of a State. The ranges of townships run from west to east; the extreme northern line of townships in any State would be all number 1, the next number 11, and so on down. In a township the sections are all numbered 1 to 36, beginning at the north-east corner, as shown in the diagram.

					NW | NE SW | SE
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Contents of Fields and Lots.

The following table will assist farmers in making an accurate estimate of the amount of land in different fields under cultivation:

10 rods	×	16 rods	=	1 A.	100 feet	×	$108\frac{9}{10}$ feet	=	¼ A.
8 "	×	20 "	=	1 "	25 "	×	100 "	=	.574 "
5 "	×	32 "	=	1 "	25 "	×	110 "	=	.631 "
4 "	×	40 "	=	1 "	25 "	×	120 "	=	.688 "
5 yards	×	968 "	=	1 "	25 "	×	125 "	=	.717 "
10 "	×	484 yards	=	1 "	25 "	×	150 "	=	.861 "
20 "	×	242 "	=	1 "	2178 square feet			=	.05 "
40 "	×	121 "	=	1 "	4356 "	"		=	.10 "
80 "	×	$60\frac{1}{2}$ "	=	1 "	6534 "	"		=	.15 "
70 "	×	$69\frac{1}{2}$ "	=	1 "	8712 "	"		=	.20 "
220 feet	×	198 feet	=	1 "	10890 "	"		=	.25 "
440 "	×	99 "	=	1 "	13068 "	"		=	.30 "
110 "	×	369 "	=	1 "	15246 "	"		=	.35 "
60 "	×	726 "	=	1 "	17424 "	"		=	.40 "
120 "	×	363 "	=	1 "	19603 "	"		=	.45 "
240 "	×	$181\frac{1}{2}$ feet	=	1 "	21780 "	"		=	.50 "
200 "	×	$108\frac{9}{10}$ "	=	½"	32670 "	"		=	.75 "
100 "	×	$145\frac{2}{10}$ "	=	⅓"	34848 "	"		=	.80 "

The Number of Rails, Riders and Stakes Required for Every Ten Rods of Zigzag Fence.

Length of Rail.	Deflection from right line.	Length of Panel.	Number of Panels.	No. of rails for each 10 rods.			Number of Stakes.	Number of Riders (single).
Feet.	Feet.	Feet.	Feet.	5 rails high.	6 rails high.	7 rails high.		
12	6	8	$20\frac{5}{8}$	103	123	144	42	21
14	7	10	$16\frac{1}{2}$	83	99	116	34	17
$16\frac{1}{2}$	8	12	$13\frac{3}{4}$	69	84	95	28	14

For longer distances than 10 rods, the proper number of rails, etc., may be computed by multiplying. For instance: If for 50 rods of fence, multiply the above number by 5; if for 100, multiply by 10, etc. The like rule will apply to the next.

The Number of Rails and Posts Required for Each Ten Rods of Post and Rail Straight Fence.

Length of rail—feet.	Length of panel—feet.	Number of panels.	Number of posts.	Number of rails for each 10 rods.			
				5 rails high.	6 rails high.	7 rails high.	8 rails high.
10	8	$20\frac{5}{8}$	21	103	123	144	165
12	10	$16\frac{1}{2}$	17	83	99	116	133
14	12	$13\frac{3}{4}$	14	69	84	95	109
$16\frac{1}{2}$	$14\frac{1}{2}$	$11\frac{1}{3}$	12	57	69	81	93

Space and Quantities of Seed Required to the Acre.

DESIGNATION	SPACE AND QUANTITY OF SEEDS.
Asparagus	1 oz produces 1,000 plants, and requires a bed 12 ft. sq.
" Roots	1,000 plants a bed 4 feet wide 225 feet long.
Eng. Dwarf Beans	1 quart plants from 100 to 150 feet of row.
French Dwarf Beans	1 " " " 250 to 350 feet of row.
Beans, pole, large	1 " " 100 hills.
Beans, pole, small	1 " " 30 hills or 250 feet of row.
Beets	10 lbs. to the acre, 1 oz. plants 150 feet of row.
Broccoli and Kale	1 oz. plants 2,500 plants, and requires 40 sq. ft. of ground.
Cabbage	Early sorts same as broccoli, and require 60 sq. ft. "
Cauliflower	The same as cabbage
Carrot	1 oz. to 150 of row.
Celery	1 oz. gives 7 000 plants, and requires sq. feet of ground.
Cucumber	1 oz. for 150 hills.
Cress	1 oz. sows a bed 16 feet square.
Egg Plant	1 oz. gives 2,000 plants.
Endive	1 oz. gives 3,000 plants, and requires 80 feet of ground.
Leek	1 " " 2,000 " and requires 60 feet of ground.
Lettuce	1 " " 7,000 " and requires seed bed of 120 ft.
Melon	1 oz. for 120 hills.
Nasturtium	1 oz. sows 25 feet of row.
Onion	1 oz. " 200 " "
Okra	1 oz. " 200 " "
Parsley	1 oz. " 200 " "
Parsnip	1 oz. " 250 " "
Peppers	1 oz. gives 2,500 plants.
Peas	1 quart sows 120 feet of row.
Pumpkin	1 oz to 150 hills.
Radish	1 oz. to 100 feet.
Salsify	1 oz. to 50 feet of row
Spinach	1 oz. to 200 feet of row
Squash	1 oz. to 75 hills.
Tomato	1 oz. gives 2,500 plants, requiring seed bed of 80 feet.
Turnip	1 oz. to 2,000 feet.
Watermelon	1 oz. to 50 hills.

Quantities of Seed Required to the Acre.

Designation.	Quantity of seed.	Designation.	Quantity of seed.
Wheat	1¼ to 2 bush.	Broom Corn	1 to 1½ bush.
Barley	1½ to 2½ "	Potatoes	5 to 10 "
Oats	2 to 4 "	Timothy	12 to 24 quarts.
Rye	1 to 2 "	Mustard	8 to 20 "
Buckwheat	¾ to 1⅓ "	Herd Grass	12 to 16 "
Millet	1 to 1½ "	Flat Turnip	2 to 3 lbs.
Corn	¼ to 1 "	Red Clover	10 to 16 "
Beans	1 to 2 "	White Clover	3 to 4 "
Peas	2½ to 3½ "	Blue Grass	10 to 15 "
Hemp	1 to 1½ "	Orchard Grass	20 to 30 "
Flax	½ to 2 "	Carrots	4 to 5 "
Rice	2 to 2½ "	Parsnips	6 to 8 "

Number of Loads of Manure and Number of Heaps in Each Load Required to an Acre, the Heaps at Given Distances Apart.

Distance of heaps apart in yards.	NUMBER OF HEAPS IN A LOAD.									
	1	2	3	4	5	6	7	8	9	10
3	538	269	179	134	108	$89\frac{1}{2}$	77	67	60	54
$3\frac{1}{2}$	395	198	132	99	79	66	$56\frac{1}{2}$	$49\frac{1}{2}$	44	$39\frac{1}{2}$
4	303	151	101	$75\frac{1}{2}$	$60\frac{1}{2}$	$50\frac{1}{2}$	$43\frac{1}{4}$	$37\frac{3}{4}$	$33\frac{1}{2}$	$30\frac{1}{4}$
$4\frac{1}{2}$	239	120	$79\frac{1}{2}$	60	$47\frac{3}{4}$	$39\frac{3}{4}$	$34\frac{1}{4}$	30	$26\frac{1}{2}$	24
5	194	97	$64\frac{1}{2}$	$48\frac{1}{2}$	$38\frac{3}{4}$	$32\frac{1}{4}$	$27\frac{3}{4}$	$24\frac{1}{4}$	$21\frac{1}{2}$	$19\frac{1}{4}$
$5\frac{1}{2}$	160	80	$53\frac{1}{2}$	40	32	$26\frac{3}{4}$	$22\frac{3}{4}$	20	$17\frac{3}{4}$	16
6	131	67	$44\frac{3}{4}$	$33\frac{1}{2}$	27	$22\frac{1}{2}$	$19\frac{1}{4}$	$16\frac{3}{4}$	15	$13\frac{1}{2}$
$6\frac{1}{2}$	115	$57\frac{1}{2}$	$38\frac{1}{4}$	$28\frac{3}{4}$	23	19	$16\frac{1}{4}$	$14\frac{1}{2}$	$12\frac{3}{4}$	$11\frac{1}{2}$
7	99	$49\frac{1}{2}$	33	$24\frac{3}{4}$	$19\frac{3}{4}$	$16\frac{1}{2}$	14	$12\frac{1}{4}$	11	10
$7\frac{1}{2}$	86	43	$28\frac{3}{4}$	$21\frac{1}{2}$	$17\frac{1}{4}$	$14\frac{1}{4}$	$12\frac{1}{4}$	$10\frac{3}{4}$	$9\frac{1}{2}$	$8\frac{1}{2}$
8	$75\frac{1}{2}$	$37\frac{1}{2}$	$25\frac{1}{4}$	19	$15\frac{1}{4}$	$12\frac{1}{2}$	$10\frac{3}{4}$	$9\frac{1}{2}$	$8\frac{1}{2}$	$7\frac{1}{2}$
$8\frac{1}{2}$	67	$33\frac{1}{2}$	$22\frac{1}{4}$	$16\frac{1}{2}$	$13\frac{1}{2}$	$11\frac{1}{4}$	$9\frac{1}{2}$	$8\frac{1}{4}$	$7\frac{1}{2}$	$6\frac{3}{4}$
9	60	30	20	15	12	10	8	$7\frac{3}{4}$	$6\frac{2}{3}$	6
$9\frac{1}{2}$	$53\frac{1}{4}$	$26\frac{3}{4}$	18	$13\frac{1}{2}$	$10\frac{3}{4}$	9	$7\frac{3}{4}$	$6\frac{3}{4}$	6	$5\frac{1}{4}$
10	$48\frac{1}{2}$	$24\frac{1}{4}$	$16\frac{1}{4}$	12	$9\frac{3}{4}$	8	7	6	$5\frac{1}{2}$	$4\frac{3}{4}$

EXPLANATION.—The left hand column gives the distance in yards between the heaps each way in each row; at the top of the columns are indicated the number of heaps in each load, and the number of loads required per acre will be found at the point where the two lines meet.

Nutritive Equivalents of Various Foods.

FOODS.	Amount of flesh-forming matter in 100 lbs.	Amount of fat forming matter in 100 lbs.	Total nutritive matter in 100 lbs.	Nutritive equival'ts of 100 lbs. best English hay.
Irish Potatoes	1.4	18.9	20.3	215.3
Carrots	0.6	6.6	7.2	691.6
Parsnips	1.2	7.0	8.2	607.3
Jerusalem Artichoke	1.0	18.8	19.8	251.5
Sugar Beet	0.9	13.6	14.5	336.5
Turnips (Swede)	1.0	5.2	6.2	803.2
Common White Turnip	0.9	3.3	4.2	1185.7
Mangel Wurtzel	1.0	12.6	13.6	367.6
Green Pea Straw	0.9	7.9	8.8	565.9
Spurrey (green)	2.7	2.3	5.0	960.0
Green Buckwheat Stalks	0.2	4.7	4.9	1016.6
Common Vetch (green)	1.9	2.6	4.5	1106.6
French Vetch (green	0.7	4.7	5.4	922.2
Green Stalks White Lupin	1.8	2.3	4.1	1212.1
Green Stalks White Bean	1.0	2.7	3.7	1345.9
Green Oats (fodder)	1.0	8.5	9.5	524.2
Timothy Grass (green)	4.0	9.7	13.7	363.4
Red Top " "	3.3	8.7	12.0	415.0
Superior English Hay	13.5	36.3	49.8	100.0
Red Clover (green)	2.0	3.6	5.6	907.1
White Clover "	1.5	2.7	4.2	1185.7
Lucerne "	1.9	3.6	5.5	905.4
Red Clover (hay)	22.5	18.7	41.2	120.8
White Clover "	18.7	40.0	58.7	84.6
Lucerne "	12.7	38.0	50.7	98.2
Wheat Flour	14.7	66.4	81.1	61.4
Indian Corn	11.0	66.7	77.7	64.2
Rye Meal	14.3	55.8	70.1	71.0
Barley Meal	13.0	52.0	65.0	76.0
Oatmeal	18.0	51.1	69.1	72.0
Buckwheat Meal	9.0	52.1	61.1	81.5
Peas	23.1	41.9	65.0	76.0
Kidney Beans	23.9	39.3	63.2	78.7
White Field Beans	24.0	39.7	63.7	78.2
Lentils	25.7	38.9	64.6	77.0
English Linseed Cake	22.1	51.0	73.1	68.0
American Linseed Cake	22.2	48.6	70.8	70.3

Weights of Grain, Seeds, etc.,

showing the weight of grain, seeds, etc., per bushel, as established by the Legislatures of the following States. The letter *m* indicates sold by measure.

ARTICLES.	New York.	Ohio.	Pennsylvania.	Indiana.	Wisconsin.	Iowa.	Illinois.	Michigan.	Connecticut.	Massachusetts	Rhode Island.	Kentucky.	New Jersey.	Vermont.	Missouri.	Canada.
Wheat, lbs	60	60	60	60	60	60	60	60	56	60		60	60	60	60	60
Rye	56	56	56	56	56	56	54	56	56	56		56	56	56	56	56
Corn	58	56	56	56	56	56	56	56	56	56		56	56	56	56	56
Oats	32	32	32	32	32	32	32	32	28	30		33	30	32	32	34
Barley	48	48	47	48	48	48	44	48		46		48	48	48	48	47
Buckwheat	48		48	50	42	52	40	42	45	46		52	50	42	52	47
Clover Seed	60	64		60	60	60		60				60	64		58	60
Timothy Seed	44	42		45		45		m		m		45			45	45
Flax Seed	55	56		56		56		m		m		56	55		56	56
Hemp Seed	44			44		44									44	
Blue Grass Seed	14			14		14									14	
Apples, dried	22	25			28	24		28							24	22
Peaches, dried	32	33			28	33		28							33	22
Coarse Salt	56	50	85	50		50				70		50			50	56
Fine Salt	56	50	63	50		50				70		50			62	56
Potatoes	60			60		60			60	60	60			60		
Peas	60									60					60	60
Beans	62	56		60		60				60		60			60	60
Castor Beans	46			46		46									46	
Onions	57			57		57									57	
Corn Meal				50						50	50				50	
Mineral Coal				70											80	

To reduce cubic feet to bushels, struck measure, divide the cubic feet by 56 and multiply by 45.

Capacities of Cisterns.

For a Circular Cistern, take the diam. in feet, square that and multiply by .785398; that gives the area in feet; multiply this by 1.728 and divide by 231, and you will have the number of gallons capacity of one foot in depth of the cistern; from this calculate the depth.

If for a Square Cistern, multiply length by breadth, and proceed to multiply the result by 1.728 and to divide by 231, as before. Calculated in this way we find that each foot in depth of a

CIRCULAR CISTERN.		SQUARE CISTERN.	
5 feet in diam. holds	4.66 bbls.	5 feet by 5 feet holds	5.92 bbls.
6 " " "	6.71 "	6 " 6 " "	8.54 "
7 " " "	9 13 "	7 " 7 " "	11.63 "
8 " " "	11.93 "	8 " 8 " "	15.19 "
9 " " "	15.10 "	9 " 9 " "	19.39 "
10 " " "	18.65 "	10 " 10 " "	23.74 "

In calculating the capacity of cisterns, etc., 31½ gals. are estimated to 1 barrel, and 63 gals to 1 hogshead.

To Compute the Weight of Live Cattle.

For cattle of a girth of from 5 to 7 feet, allow 23 lbs. to the superficial foot. For a girth of from 7 to 9 ft., allow 31 lbs. to the superficial foot. For small cattle and calves of a girth from 3 to 6 ft. allow 16 lbs., to the cubic foot. For pigs, sheep, and animals measuring less than 3 ft. girth, allow 11 lbs. to the superficial foot.

RULE.—Measure the girth in inches back of the shoulder, and the length in inches from the square of the buttock to a point even with the point of the shoulder blade. Multiply the girth by the length, and divide the product by 144 for the superficial feet, and then multiply the superficial feet by the number of lbs. allowed as above for cattle of various girths, and the product will be the number of pounds of beef, veal or pork in the four quarters of the animal. To find the number of stone, divide the number of pounds by 14.

The following is compiled from two English works on the subject:

Girth. ft. in.	Length. ft. in.	Renton's Table. stone. lb.	Cary's Table. stone. lb.
5 0	3 0	21 0	21 00
5 0	4 0	24 0	24 00
5 6	3 9	27 1	27 00
5 6	4 0	34 4	34 07
6 0	4 6	38 8	38 11
6 0	5 0	43 1	43 00
6 6	4 6	45 9	45 07
6 6	4 9	48 0	48 00
7 0	5 6	64 6	64 07
7 0	6 0	70 5	70 03
8 0	6 6	90 8	90 12
8 0	7 0	107 5	107 06

Showing the Difference between Good Hay and the Substances noted below, as Food for Stock, being the Mean of Experiment and Theory.

100 lbs. of Hay are equal to	100 lbs. of Hay are equal to
275 " Green Indian Corn.	51 " Rye.
442 " Rye Straw.	46 " Wheat.
360 " Wheat "	59 " Oats.
164 " Oat "	45 " Peas and Beans mixed.
180 " Barley "	64 " Buckwheat.
153 " Pea "	57 " Indian Corn.
200 " Buckwheat Straw.	68 " Acorns
201 " Raw Potatoes.	105 " Wheat Bran.
175 " Boiled Potatoes.	109 " Rye "
339 " Mangel Wurtzel.	167 " Wheat, Pea and Oat Chaff.
504 " Turnips.	
300 " Carrots.	179 " Rye and Barley, mixed.

The following table shows the amount of hay or its equivalent per day, required by each 100 lbs of live weight of various animals:

Working Horses	3 08 lbs.
" Oxen	2.40 "
Fatting Oxen	5.00 "
" " when fat	4.00 "
Milch Cows	from 2.25 to 2.40 "
Dry "	2.42 "
Young growing cattle	3.08 "
Steers	2.84 "
Pigs	3.00 "
Sheep	3.00 "

Contents of Corn-Cribs containing Corn in the Ear, Computed on a Basis of 3,840 Cubic Inches per Bushel. Height of Crib, 10 feet.

Lgth.	10	11	12	13	14	15	16	18	20	22	24	26	28	30
Breadth in Ft. 3	135	149	162	175	189	202	216	243	270	297	324	351	378	405
3½	158	173	189	205	221	236	252	284	315	347	378	410	441	473
4	180	198	216	234	252	270	288	324	360	396	432	468	504	540
4½	203	223	243	263	283	304	324	365	405	446	448	527	567	608
5	225	248	270	292	315	337	360	405	450	495	540	585	630	675
5½	248	272	297	322	347	371	396	446	495	545	594	644	693	743
6	270	297	324	351	378	405	432	486	540	594	648	702	756	810
6½	293	322	351	380	410	439	468	527	585	644	702	761	819	878
7	315	347	378	409	441	472	504	567	630	693	756	819	882	945
7½	338	371	405	439	473	506	540	608	675	743	810	878	945	1013
8	360	396	432	468	504	540	576	648	720	792	864	936	1008	1080
8½	383	421	459	497	536	574	612	689	765	842	918	995	1071	1148
9	405	446	486	526	567	607	648	729	810	891	972	1053	1134	1215
10	450	495	540	585	630	675	720	810	900	990	1080	1170	1260	1350
11	495	545	594	643	693	742	792	891	990	1089	1188	1287	1386	1485
12	540	594	648	702	756	810	864	972	1080	1188	1296	1404	1512	1620

EXAMPLE.—Under 28 and opposite 8 is 1,008, representing the number of bushels of corn in the ear contained in a crib 28 ft long, 8 ft. wide, and 10 feet high. This space would contain 1,800 bushels of shelled corn.

RULE WHEN THE CRIB IS FLARED BOTH WAYS.—Multiply half the sum of the bottom breadths in *feet* by the perpendicular height in feet, and the same again by the length in feet; multiply the last product by .63 for heaped bushels of ears, and by .42 for the number of bushels in shelled corn. This rule is based on the generally accepted estimate that 3 heaped half bushels of ears, or 4 even full, form 1 of shelled corn.

Comparative Yield of Various Vegetables. Productions in Pounds Weight Per Acre.

	Lbs. per a.		Lbs. per a.		Lbs. per a.
Hops	412	Cherries	2 000	Apples	5 000
Wheat	1 200	Onions	2 800	Turnips	8 400
Barley	1 600	Hay	1 000	Cinque-foil grass	9 600
Oats	1 840	Pears	5 000	Vetches, green	6 800
Peas	1 020	Grass	7 000	Cabbages	10 900
Beans	2 000	Carrots	6 800	Parsnips	11 200
Plums	2 000	Potatoes	7 500	Mangel Wurzel	22 000

One acre will produce 224 lbs. mutton, 186 lbs. beef, 2,900 lbs. milk, 300 lbs. butter, and 200 lbs. cheese. A fair crop of potatoes from 16 bushels of seed is 340 bushels.

Exhibiting the Capacities of Grain Bins, etc., 10 Feet High.

Width in Ft.	Bin 6 ft. Lg.	Bin 7 ft. Lg	Bin 8 ft. Lg.	Bin 9 ft. Lg.	Bin 10 ft Lg.	Bin 11 ft Lg.	Bin 12 ft Lg.	Bin 13 ft Lg.	Bin 14 ft Lg.	Bin 15 ft. Lg.	Bin 16 ft. Lg.	Bin 20 ft. Lg.	Bin 22 ft. Lg.
	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.
3	145	169	192	217	241	265	289	313	338	362	386	482	530
4	193	225	257	289	321	354	386	418	450	482	514	643	708
5	241	282	321	362	402	442	482	522	563	603	643	804	884
6	290	338	386	434	482	530	579	627	675	723	771	964	1060
7	338	394	450	500	563	619	675	731	788	844	900	1125	1238
8	386	450	514	579	643	707	771	836	900	964	1029	1286	1414
9	434	507	579	651	723	795	868	940	1013	1085	1157	1446	1592
10	482	563	643	723	804	884	964	1045	1125	1205	1286	1607	1768
11	531	619	707	796	884	972	1061	1149	1238	1326	1414	1768	1944
12	579	675	771	868	964	1061	1157	1254	1350	1446	1543	1929	2122

The Amount of Butter and Cheese Obtainable From Milk.

100 lbs. milk contains about	3	lbs.	pure butter.
100 " " " "	7.8	"	cheese.
100 " " averages "	3.5	"	common butter.
100 " " " "	11.7	"	common cheese.
100 " skim milk yields "	13 5	"	skim milk cheese.

The time required for the full amount of cream to rise to the surface of new milk at different temperatures may be seen from the following table:

10 to 12 hours if the temperature of the air is 77° Fahr.						
18 to 20	"	"	"	"	"	"
24	"	"	"	"	55°	"
36	"	"	"	"	50°	"

Measuring Hay.*

To find the number of tons of meadow hay raked into windrows:

RULE.—Multiply the length of the windrow in yards by the width in yards, and that product by the height in yards, and divide by 25; the quotient will be the number of tons in the windrow.

To find the number of tons of hay in a mow:

RULE.—Multiply the length in yards by the height in yards, and that by the width in yards, and divide the product by 15; the quotient will be the number of tons.

Ploughing.

Showing the distance traveled by a horse in plowing an acre of land, and the quantity of land cultivated per day, computed at the rate of 16 and 18 miles per day of 9 hours:

Bdt'h of furrow slice.	Space traveled in ploughing an acre.	Extent ploughed per day.		Bdt'h of furrow slice.	Space traveled in ploughing an acre.	Extent ploughed per day.	
Inch.	Miles.	18 miles	16 miles	Inch.	Miles.	18 Mi.	16 Mi.
7	14 1-2	1 1 4	1 1-8	14	7	2 1-2	2 1-4
8	12 1-2	1 1 2	1 1-4	15	6 1-2	2 3 4	2 2-5
9	11	1 3 5	1 1-2	16	6 1-6	2 6-10	2 3 5
10	9 9-10	1 4-5	1 3-5	17	5 3-4	3 1-10	2 3 4
11	9	2	1 3 4	18	5 1-2	3 1-4	2 9-10
12	8 1-4	2 1-5	1 9-10	19	5 1-4	3 1-2	3 1-10
13	7 [illegible]	2 1 3	2 1 6	20	4 9-10	3 1-5	3 1-4

Wages Table.

Calculated on a scale of ten hours labor per day. The time in hours and days is noted in the left hand column, and the amount of wages under the respective headings, as noted below.

Wgs	$1.50	$2.00	$2.50	$3.00	$3.50	$4.00	$4.50	$5.00	$5.50	$6.00
Hours ½	.01¾	.01⅞	.02	.02½	.03	.03½	.02½	.04½	.04½	.05
1	.03⅛	.03¾	.04⅜	.05	.06	.06¼	.07½	.08⅓	.09⅜	.10
2	.05	.06⅔	.08⅓	.10	.11	.13⅓	.15	.16⅔	.18⅓	.20
3	.07½	.10	.12½	.15	.17½	.20	.22½	.25	.27½	.30
4	.10	.13⅓	.16	.20	.23⅓	.26⅔	.30	.33⅓	.36⅔	.40
5	.12½	.16⅔	.21	.25	.29⅙	.33⅓	.37½	.41⅔	.46	.50
6	.15	.20	.25	.30	.35	.40	.45	.50	.55	.60
7	.17½	.23⅓	.29⅙	.35	.41	.46⅔	.52½	.58⅓	.64⅙	.70
8	.20	.26⅔	.33⅓	.40	.46⅔	.53⅓	.60	.66⅔	.73⅓	.80
9	.22½	.30	.37½	.45	.52½	.60	.67½	.75	.82½	.90
Dys.										
1	.25	.33⅓	.41⅔	.50	.58⅓	.66⅔	.75	.83⅓	.91⅔	1.00
2	.50	.66⅔	.83⅓	1.00	1.16⅔	1.33⅓	1.50	1.66⅔	1.83⅓	2.00
3	.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
4	1.00	1.33⅓	1.66⅔	2.00	2.33⅓	2.66⅔	3.00	3.33⅓	3.66⅔	4.00
5	1.25	1.66⅔	2.08⅓	2.50	2.91⅔	3.33⅓	3.75	4.16⅔	4.58⅓	5.00
6	1.50	2.00	2.50	3.00	3.5	4.00	4.50	5.00	5.50	6.00

Wgs	$7.00	$7.50	$8.00	$10.00	$11.00	$12.00	$13.00	$14.00	$15.00
Hours ½	.06	.06¼	.06⅔	.08⅓	.09	.10	.11	.12	.12½
1	.11⅔	.12½	.13⅓	.16⅔	.18⅓	.20	.22	.23⅓	.25
2	.23⅓	.25	.26⅔	.33⅓	.36⅔	.40	.43⅓	.46⅔	.50
3	.35	.37½	.40	.50	.55	.60	.65	.70	.75
4	.46⅔	.50	.53⅓	.66⅔	.73⅓	.80	.86⅔	.93⅓	1.00
5	.58⅓	.62½	.66⅔	.83⅓	.91⅔	1.00	1.08⅓	1.16⅔	1.25
6	.70	.75	.80	1.00	1.10	1.20	1.30	1.40	1.50
7	.81⅔	.87½	.93⅓	1.16⅔	1.28⅓	1.40	1.52	1.63⅓	1.75
8	.93⅓	1.00	1.06⅔	1.33⅓	1.46⅔	1.60	1.73⅓	1.86⅔	2.00
9	1.05	1.12½	1.20	1.50	1.65	1.80	1.95	2.10	2.25
Dys.									
1	1.16⅔	1.25	1.33⅓	1.66⅔	1.83⅓	2.00	2.17	2.33⅓	2.50
2	2.33⅓	2.50	2.66⅔	3.33⅓	3.66⅔	4.00	4.34	4.66⅔	5.00
3	3.50	3.75	4.00	5.00	5.50	6.00	6.51	7.00	7.50
4	4.66⅔	5.00	5 33⅓	6.66⅔	7.33⅓	8.00	8.68	9.33	10.00
5	5 83⅓	6.25	6 66⅔	8 33⅓	9 16⅔	10.00	10.85	11.66⅔	12.50
6	7.00	7.50	8.00	10.00	11.00	12.00	13.00	14.00	15.00

If the desired number of days or amount of wages is not in the table, double or treble any suitable number of days or amount of money as the case may be, until you obtain the desired number of days and the wages to correspond.

* There is no accurate mode of measuring hay but by weighing it, hence all the rules are only approximately correct, though the following will be found sufficient for all ordinary farming.

Digestibility of Foods.

Giving the time required for the digestion in the stomach of various alimentary substances, derived from actual experiments.

Article.	Mode of prepar't'n	H. M
Aponeurosis (gristle)	Boiled	3.00
Apples, sour, mellow	Raw	2.00
Apples, sour, hard	Raw	2.50
Apples, sweet, mellow	Raw	1.30
Bass, striped	Broiled	3.00
Beans, pod	Boiled	2.30
Beans and green corn	Boiled	3.45
Beef	Fried	4.00
Beefsteak	Broiled	3.00
Beef, fresh, lean, dry	Roasted	4.00
Beef, fresh, lean, rare	Roasted	3.00
Beef, with mustard, etc	Boiled	3.10
Beef, with salt only	Boiled	3.30
Beets	Boiled	3.45
Brains, animal	Boiled	1.45
Bread, corn	Baked	3.15
Bread, wheat, fresh	Baked	3.30
Cabbage	Raw	4.30
Cabbage, with vinegar	Raw	2.00
Cabbage	Boiled	4.30
Carrot, orange	Boiled	3.15
Cartilage	Boiled	4.15
Catfish	Fried	3.30
Cheese, old, strong	Raw	3.30
Chicken, full grown	Fricasse'd	2.45
Codfish, cured dry	Boiled	2.00
Custard	Baked	2.45
Duck, tame	Roasted	4.00
Duck, wild	Roasted	4.30
Eggs, fresh	Raw	2.00
Eggs, fresh	Whipped	1.30
Eggs, fresh	Roasted	2.15
Eggs, fresh	Soft boiled	3.00
Eggs, fresh	Hard "	3.30
Eggs, fresh	Fried	3.30
Fowls, domestic	Roasted	4.00
Fowls, domestic	Boiled	4.00
Gelatine	Boiled	2.30
Goose, wild	Roasted	2.30
Hashed meat & veg'bl's	Warmed	2.30
Heart, animal	Fried	4.00
Lamb, fresh	Broiled	2.30
Liver, beeves', fresh	Broiled	2.00
Marrow, spinal, animal	Boiled	2.40
Milk	Boiled	2.00
Milk	Raw	2.15
Mutton, fresh	Broiled	3.00
Mutton, fresh	Boiled	3.00
Mutton, fresh	Roasted	3.15
Oysters, fresh	Raw	2.55
Oysters, fresh	Roasted	3.15
Oysters, fresh	Stewed	3.30
Parsnips	Boiled	2.30
Pig, sucking	Roasted	2.30
Pigs' feet, soused	Boiled	1.00
Pork steak	Broiled	3.15
Pork, fat and lean	Roasted	5.15
Pork, recently salted	Stewed	3.00
Pork, recently salted	Broiled	3.15
Pork, recently salted	Fried	4.15
Pork, recently salted	Boiled	4.30
Potatoes, Irish	Roasted	2.30
Potatoes, Irish	Baked	2.30
Potatoes, Irish	Boiled	3.30
Salmon, salted	Boiled	4.00
Sausage, fresh	Broiled	3.20
Soup, barley	Boiled	1.30
Soup, bean	Boiled	3.00
Soup, chicken	Boiled	3.00
Soup, mutton	Boiled	3.30
Soup, oyster	Boiled	3.00
Soup, beef, veg'bl's, br'd	Boiled	4.00
Soup, marrow bones	Boiled	4.15
Tripe, soused	Boiled	1.00
Trout, salmon, fresh	Boiled	1.30
Trout, salmon, fresh	Fried	1.30
Turkey, wild	Roasted	2.18
Turkey, domesticated	Roasted	2.30
Turkey, domesticated	Boiled	2.25
Turnips	Boiled	3.30
Veal, fresh	Boiled	4.00
Veal, fresh	Fried	4.30
Venison steak	Broiled	1.35

Table for Foretelling the Weather through the Lunations of the Moon.

(Dr. Hershell and Adam Clarke.)

If the New Moon, the First Quarter, the Full Moon or the Last Quarter, enters—	In Summer.	In Winter.
Between midnight and 2 A. M.	Fair.	Hard frost, unless wind is S. or E.
Bet. 2 and 4 A. M.	Cold, fr't showers.	Snowy and stormy.
" 4 and 6 A. M.	Rain.	Rain.
" 6 and 6 A. M.	Wind and Rain.	Stormy.
" 8 and 10 A. M.	Changeable.	Cold rain if wind is W., snow if E.
" 10 and 12 A. M.	Frequent showers.	Cold and high wind.
At 12 M. and 2 P. M.	Very rainy.	Snow and rain.
Bet. 2 and 4 P. M.	Changeable.	Fair and mild.
" 4 and 6 P. M.	Fair.	Fair.
" 6 and 8 P. M.	Fair if wind N. W., rainy if S. or S. E.	Fair and frosty if wind is N. or W., rain or snow if S. or S. E.
" 8 and 10 P. M.	Do.	Do.
" 10 and midnight	Fair.	Fair and frosty.

Observations —1. The nearer the time of the moon's change, first quarter, full, and last quarter, is to *midnight*, the fairer the weather during 7 following days. Range for this is from 10 at night till 2 next morning. 2. The nearer to *mid-day* the phases of the moon happen, the more foul or wet weather during the 7 days following. 3. The moon's change entering from 4 to 10 of the afternoon, may expect fair weather.

Force of the Wind.

Miles per Hour.	Feet per Minute.	Feet per Second	Force in pounds per square foot.	Description.
1	88	1.47	.005	Hardly perceptible.
2	176	2.93	.020	Just perceptible.
3	264	4.4	.044	
4	352	5.87	.079	Gentle Breeze.
5	440	7.33	0.123	
10	880	14.67	0.492	Pleasant Breeze.
15	1,320	22.	1.107	
20	1.760	29.3	1.970	Brisk gale.
25	2.200	36.6	3.067	
30	2,640	44.0	4.429	High wind.
35	3.080	51.3	9.027	
40	3,520	58.6	7.870	Very high wind.
45	3.960	66.0	9.900	
50	4,400	73.3	12.304	Storm.
60	5,280	88.0	17.733	
70	6,160	102.7	24.153	Great storm.
80	7,040	117.3	31.490	
100	8,800	146.6	49.200	Hurricane.

Loss of Light by Use of Shades.

Glass, etc.	Th'k-ness.	Loss.	Glass, etc.	Th'k-ness.	Loss.
	Ins.	Pr Ct.		Ins.	Pr Ct.
American Enamelled	1-16	51.23	Window, d'ble, Eng	1-8	9.39
Crown	1-8	13.08	" " Ger.	1-8	13.
Crystal Plate	1-8	8.61	" single, Ger.	1-16	4 27
English	1 8	6 15	" " ground	1-16	65.75
Porcelain Transp'cy	1-3	97.68	" green	1 16	81.05

Effects of Heat on Various Bodies.

Fine Gold melts	2590°	Heat, bright red	1800°
" Silver "	1250	" red visible by day	1077
Copper melts	2548	" white	2400
Wrought Iron melts	3480	Mercury boils	622
Cast " "	3479	" volatilizes	680
Bright red " in the dark	752	Platinum melts	3080
Red hot " in twilight	884	Zinc melts	740
Glass melts	2377	Highest natural temperature (Egypt)	117
Common fire	7000	Greatest natural cold (below zero)	56
Brass melts	1900	" artificial " "	166
Air furnace	3300	Heat of human blood	98
Antimony melts	951	Snow and Salt, equal parts	0
Bismuth melts	476	Ice melts	32
Cadium	660	Water in *vacuo* boils	98
Steel	2500	Furnace under steam boiler	1100
Lead	594		
Tin	424		
Heat, cherry red	1500		

Weights of Various Breeds of Poultry.

	Lbs.	oz.
Black Polish cock, 3 years old	5	3
Black Polish hen, 3 years old	3	4
Golden Polish cock	5	0
Golden Polish hen	3	8
Silver Hamburg hen	3	1
Silver Polish hen	3	4
Game cock	4	10
Game hen	3	0
Pheasant Malay cock, 2 years old	7	0
Pheasant Malay hen	5	1
Pheasant Malay pullet, 17 mos. old	5	3
Dorking cocks	7	0
Dorking hen	6	8
Cochin-China cock, 16 mos. old, moulting)	6	5
Cochin-China hen	4	6
Malay cock, 16 months old	6	14
Malay hen, 16 months old	4	8
Black Spanish cock, 4 mos. old	2	11
Black Spanish pullet	2	11
Turkey (cock), 16 mos. old	16	0
Turkey (hen), 3 to 4 years	8	6
White China gander, 6 years old	12	13
White China goose	11	13

Life Period and Fecundity of Birds.

	Years.
Blackbird	10 to 12
Blackcap	15
Canary (if it does not couple)	24
Chaffinch	20 to 24
Crane	24
Crow	100
Eagle	100
Fowl, common	10
Goldfinch	10 to 15
Goose	50
Heron	60
Lark	16 to 18
Linnet	14 to 23
Nightingale	16 to 18
Porrot	10
Peacock	24
Pelican	40 to 50
Pheasant	15
Partridge	15
Pigeon	20
Raven	100
Robin	10 to 12
Skylark	10 to 30
Sparrow Hawk	40
Starling	10 to 12
Swan	100
Thrush	8 to 10
Titlark	5 to 6
Wheatear	2
Wren	2 to 3
	Eggs at a sitting.
Eagle	2 to 3
Falcon	2 to 4
Fowl, domestic	6 to 20
Hawk	2 to 4
Owl	2 to 6
Partridge	14 to 20
Pheasant	10 to 20
Sparrow	4 to 6
Sparrow Hawk	2 to 5
Stork	2 to 3
Swallow	5 to 6
Wren	10 to 16

Relative Nutritive Qualities of Food.

Liebig's Tables.

	Warmth producing;	to Flesh producing.
Barley	57	10
Beef	17	10
Buckwheat	130	10
Milk, cows'	30	10
Milk, human	40	10
Mutton, fat	27	10
Oat Meal	50	10

DICTIONARY OF AGRICULTURAL AND KINDRED TERMS.

ABDOMEN, lower part or lower belly of an animal.
ABRASION, wearing or rubbing.
ACARI, ticks; small articulated insects.
ACETATE, a neutral salt.
ACHROMATIC, destitute of color.
ACRID, sharp; pungent; bitter.
ACULEATED, having prickly points.
ACUTE-LOBED, having pointed divisions.
AERATE, to combine with carbonic acid or fixed air.
AFTERMATH, a second crop of grass in the same season.
ALBUMEN, a substance found in some seeds and vegetables, resembling in character the white of an egg.
ALBURNUM, the softer part of wood, between the inner bark and the wood; sap.
ALKALINE, having the properties of alkali.
ALLUVION, alluvial land.
ALTERATIVE, a medicine which changes the habit, and restores healthy functions.
ALLUMINOUS, pertaining to alum or allumina.
AMMONIA, a volatile alkali, existing in its purest form in a state of gas.
AMPHIBIOUS, capable of living in air and water.
ANIMALCULA, an animal, the figure of which is discernible only through a magnifying glass.
ANNUAL, a plant that lives only during one year.
ANNULAR, having the form of a ring.
ANTENNÆ, the horns or feelers of insects, projecting from the head.
ANTERIOR, before; in time or place; prior.
ANTHER, the case or part of the flower containing pollen, or the male part of a flower.
ANTISEPTIC, opposing or counteracting putrefaction.
APERIENT, opening; laxative.
APEX, the tip, point, or summit of anything.
APHIS, a genus of insects; vine-fretter; plant-louse.
APTEROUS, a wingless insect.
ARABLE, fit for plowing or tillage.
AROMA, the odoriferous principle; a pleasant smell.
AROMATIC, fragrant; spicy; odoriferous.
ARSENIOUS, containing arsenic.
ARTERY, a vessel or tube conveying blood from the heart to all parts of the body.
ASCESCENT, having a tendency to sourness; acidity.
ASTRINGENT, binding; strengthening; opposed to laxative.
ATLAS, the first joint of the neck.
AVIARY, an enclosure for keeping birds confined.
AWN, the beard or bristles of grain and grasses.
AWNED, having a beard.
AWNLESS, destitute of a beard.
AXIL, the space or angle formed by a branch or a leaf with the stem.
AZOTIZED, from azote, a gas fatal to animal life.
BASAL, pertaining to or constituting the base.
BASE, the principal matter of a mixture or composition.
BAST, rope, or cord, made of the bark of the lime-tree or linden.
BATTEN, to fatten; a piece of board or scantling, a few inches wide.
BAY, an enclosed place in a barn, for depositing hay.
BERE, the name of a species of Scotch barley.
BIENNIAL, once in two years; continuing two years.
BIFURCATION, a forking, or division into two branches.
BIG, a species of barley.
BLANCHED, whitened.
BOUT, a turn; a single part of an action carried on at successive intervals.
BRINDLE, spottedness.
BUTYRACEOUS, resembling butter.
CALCAREOUS, partaking of the nature of lime.
CALCINED, reduced to a powder by the action of heat.
CALYCINE, relating to, or like, a calyx.
CALYX, the outer covering of a flower.
CAMBIUM, a glutinous secretion which, in spring, separates the alburnum of a plant from its inner bark.
CAPSULE, the seed vessel of a plant.
CARBON, pure charcoal.
CARBONACEOUS, pertaining to charcoal.
CARTILAGE, gristle.
CASEOUS, resembling cheese.
CAULESCENT, having a perfect stem; rooted, like the cabbage.
CAUSTIC, any substance which, applied to living animals, acts like fire.
CELLULAR, consisting of or containing cells.
CELLULOSE, the substance left after the action of solvents upon vegetable tissues.
CHAP, the upper and lower part of the jaw.
CHERMES, an insect.
CHINE, the backbone or spine of an animal.
CHRONIC, continuing a long time.
CHRYSALIS, the second apparent change of the maggot of an insect, before its appearance as a butterfly.
CHURR-WORM, an insect that turns about nimbly.
CHYLE, a whitish fluid separated from food by means of digestion.
CLEAT, a piece of wood used to fasten ropes upon.
COAGULATE, to curdle; to thicken; to change from a fluid to a solid mass.
COCOON, an oblong ball, or covering of silk, fabricated by the silk-worm; the egg-shaped case of the chrysalis.
COLLATERAL, being by the side; side by side; on the side; side to side.
COLTER, the fore iron of a plow, with a sharp edge, that cuts the earth or sod.
CONCAVE, hollow; arched, like the inner surface of a spherical body.
CONICAL, round, and decreasing to a point.
CONVEX, rising or swelling on the interior surface into a spherical or round form.
CORIACEOUS, leathery; resembling leather.
COROLLA, the innermost of the envelopes by which the organs of fructification of many flowers are covered; the second of two envelopes that surround the stamen and pistil.
CULINARY, relating to the kitchen.
CULM, the stalks or stems of corn or grasses.
CURD, the thickened part of milk, which is formed into cheese.
CURVILINEAR, having a curved line.
CUTANEOUS, belonging to the skin.
CUTICLE, the thin, exterior coat of the skin.
DECOCTION, the strength of leaves, seeds, or other matter, drawn out by boiling.
DEFECATE; to free from impurities; to purify.
DENTATA, pertaining to the teeth.
DENTATED, having points like teeth.
DEW-LAP, the flesh that hangs from the throat of oxen, which laps or licks the dew in grazing.
DIADELPHOUS, having the stamens united in two parcels.
DIAGONAL, being in an angular direction.
DIAMETER, a right line passing through the center of an object, from one side to the other.
DICHOTOMOUS, regularly divided by pairs.
DISK, the whole surface of a leaf; the fleshy substance between the stamens and pistils.
DIURETIC, tending to produce discharges of urine.
DRENCH, a draught; a portion of medicine to purge a beast.
DRUPE, a general name for a one-celled, one or two seeded fruit, which does not open when ripe, as the peach, cherry, plum, etc.
EDIBLE, fit to be eaten as food.
ELECTRICITY, a very thin fluid diffused through most bodies, rapid in its motion, and powerful.

ELLIPTICAL, oval.
ELONGATION, the state of being extended.
ELYTRA, the sheaths of an insect; a case covering the wings.
EMARGINATE, having a notch at the point.
EMASCULATION, castration.
EMBRACING, enclosing; clasping; holding in embrace.
EMBROCATION, the liquid with which an affected part is washed.
EMBRYO, anything in its first rudiments, or unfinished state.
EPIDERMIS, a thin membrane, covering the skin of animals or the bark of trees.
EROSION, eaten away; corrosion; canker.
ESCULENT, any plants fit for food, though sometimes used as a general name for edible roots.
ESOPHAGUS, the gullet; the canal through which food and drink pass to the stomach.
ESPALIER, a row of trees planted about a garden or in hedges.
EXPRESSION, the act of pressing or squeezing out.
EXTRAVASATED, forced or let out of its proper vessels.
EXUDE, a discharge of moisture, juice or liquid, by bodies and plants.
FALLOWING, plowing and harrowing land without sowing it.
FARINA, fine dust or powder contained in the anthers of plants.
FARINACEOUS, mealy; pertaining to meal.
FAUCET, the spigot of a barrel.
FEBRILE, pertaining to fever.
FECAL, containing or consisting of dregs, sediment or excrement.
FECULA, the green matter of plants; starch or farina.
FECUNDATION, the act of making fruitful or prolific; impregnation.
FERMENTATION, internal motion of the particles of animal and vegetable substances, occasioned by heat or moisture, and causing an extrication of gas and heat.
FERRUGINOUS, partaking of iron.
FETLOCK, a tuft of hair growing behind the pastern joint of many horses.
FETUS, the young, in the womb or egg, when perfectly formed.
FIBROUS, composed or consisting of fibers.
FIGMENT, a thing feigned or imagined.
FILAMENT, a fiber; a fine thread, of which flesh, nerves, skin, plants, roots, etc., are composed.
FILIFORM, having the form of a thread or filament.
FILTRATE, to purify; to strain.
FINING, the purification of substances by the addition of ingredients, which separate and deposit the objectionable matter.
FLACCID, soft and weak; limber.
FLANK, the fleshy part of an animal's side between the ribs and hip.
FLESHY, plump; pulpy.
FLITCH, hog's side salted and cured.
FLOCCULENT, adhering in locks or flakes.
FLORET, a little flower.
FOMENT, to bathe with warm liquors.
FRUCTIFICATION, rendering productive of fruit.
FULCRUM, a prop or support.
FUNGUS, mushroom; a spongy excrescence.
FUSIFORM, shaped like a spindle.
GASTRIC, belonging to the belly or stomach.
GERMEN, the ovary or seed-bud of a plant.
GESTATION, carrying young in the womb from conception to delivery.
GIRT, a bandage or strap.
GLAUCOUS, a dull green; having a bluish tinge.
GLOBULAR, round; spherical.
GLOBULE, a small particle of matter of a spherical form.
GLUME, the outer covering of corn and grasses; the husk or chaff.
GLUTEN, a tough, elastic, gray substance found in the flour of grain.
GRAMINEOUS, pertaining to grass.
GRANULATION, the act of forming into grains.
GYPSUM, plaster-stone.
HACKLE, raw silk; any flimsy substance unspun; a machine to dress flax or hemp.
HAULM, straw; the stem or stalk of grain, etc.
HEADLAND, a ridge or strip of unplowed land at the ends of furrows, or near a fence.
HEATHERY, a place overgrown with shrubbery of any kind.
HEMISPHERICAL, containing half a sphere or globe.
HERBACEOUS, having green and cellular stalks; being annual as to stem, but perennial as to root.
HEXAGONAL, having six sides and six angles.
HISPID, rough; having stiff hairs or bristles.
HOAR-FROST, white particles of ice formed by the congelation of dew or watery vapors.
HOARY, having a grayish hue.
HOCK, joint of an animal between the knee and the fetlock; a part of the thigh.
HOLM, low, flat, rich land on the banks of a river.
HOPPER, a wooden trough through which grain passes into a mill; a vessel in which seed-corn is carried for sowing.
HORIZONTAL, parallel to the horizon; on a level.
HYBRID, mongrel; an animal or plant produced from the mixture of two species.
HYDATID, a bladder-like animal filled with aqueous fluid, which infests the human internal organs, particularly the liver; an insect found in the skulls of sheep.
HYDRAULIC, relating to the conveyance of water through pipes.
HYDROGEN, a gas constituting one of the elements of water.
IMBRICATED, indented with concavities; overlapping.
IMPERVIOUS, not penetrable by light, nor permeable to fluids.
INCISED, cut; notched.
INCISIVE, having the quality of cutting or separating; incisive teeth, in animals, are the fore teeth.
INDIGENOUS, native to the country or place.
INJECTION, throwing in; liquid medicine thrown into the body by means of a syringe or pipe.
INNOXIOUS, free from mischievous qualities.
INTEGUMENT, that which naturally invests or covers another thing.
INTERNODE, the space between two joints of a plant.
INTERSTICE, the space between things.
IRIDESCENT, having colors like the rainbow.
IRRIGATION, a mode of watering land by the aid of drains or canals.
JUGULAR, pertaining to the throat or the neck.
KEEL, the two lowest petals of some flowers.
LABIAL, pertaining to the lips.
LACHRYMAL, generating or secreting tears.
LANCEOLATE, shaped like a lance.
LARVA, an insect in the caterpillar state.
LARYNX, the upper part of the windpipe; a cartilaginous cavity.
LATENT, concealed.
LATERAL, proceeding from the side.
LEA, a meadow or plain.
LEGUNE, fruit similar to the pod of a pea.
LEVER, a bar of any substance turning on a support called the fulcrum or prop.
LIGAMENT, anything that ties or unites one thing or part to another; a strong substance, serving to bind one bone with another.
LIGNEOUS, consisting of wood.
LINE, the twelfth part of an inch.
LINEAR, consisting of lines; slender; in a straight direction.
LITHE, that may be easily bent; pliable; nimble.
LOBBY, a small hall or waiting-room.
LOBE, a division of a leaf.
LONGITUDINAL, running lengthwise.
LOTION, a liquid preparation for washing the body.
LUPULIN, the fine yellow powder of hops.
MACERATE, to steep in water until nearly dissolved.
MAL-ODOROUS, having an offensive odor.
MANIPULATE, to work with the hands; to handle.
MARL, a species of limy earth.
MATRICE, the womb; the place where anything is formed or produced.
MATTOCK, a tool to grub up weeds.
MAW, the stomach of beasts; the crop of fowls.
MEMBRANE, a thin, white, flexible skin.
METACARPAL, part of the hand between the wrist and the fingers.
METAMORPHOSE, to change into a different form; to transform.
MIASMATA, pertaining to putrefactive effluvia.
MIDGE, a small insect; a gnat or flea.

MIDRIB, the middle rib or vein of a leaf.
MILCH, giving milk.
MOLTING, shedding a natural covering, as hair, feathers, skin or horns.
MONGREL, of a mixed breed.
MUCILAGE, one of the elements of vegetables; the liquor which moistens animal bodies.
MUCUS, slimy; glutinous.
MULCH, half rotten straw.
MULLION, a division in a window-frame; a bar.
MUST, unfermented wine, newly pressed from the grape.
NASAL, pertaining to the nose.
NAVICULAR, shaped like a boat.
NITROGEN, an element of air called ozote, fatal to animal life.
NOCTURNAL, pertaining to the night.
NORMAL, perpendicular; relating to rudiments or first principles.
NOXIOUS, hurtful; harmful.
OBLIQUE, not direct; slanting.
OBLONG, longer than broad.
OBOVATE, having the narrow end downward.
OBTUSE, blunt; not pointed or acute.
OCCIPITAL, pertaining to the back part of the head.
OFFSET, a shoot; a sprout from the roots of a plant.
ORGANIC BODIES, bodies with organs, on the action of which depend their growth and perfection.
OSIER, willow twig.
OVA, eggs.
OVAL, of the shape or figure of an egg.
OVARY, the part where eggs are formed, or in which the fetus is supposed to be formed.
OVATE, egg-shaped.
OVIPAROUS, bringing forth, or producing young by eggs.
OVULE, a body destined to become a seed.
OVUM, egg-shaped.
OXYGEN, that part of air which may be breathed.
PAD, a road; an easy-paced horse; a soft saddle; to beat a way smooth and level.
PADDOCK, a small enclosure for animals.
PALMATED, having the shape of a hand; webbed.
PALPI, feelers.
PANARY, pertaining to bread
PANICLE, a species of flowering; unfolding of blossoms.
PARALLELOGRAM, a figure whose opposite sides are equally distant throughout.
PARASITIC, growing on the stem or branch of another plant.
PARIETAL, bones forming the sides and upper part of the skull.
PARTERRE, level ground laid out and furnished with evergreens and flowers.
PASTERN, that part of a horse's leg between the joint next to the foot and the coronet of the hoof.
PECANT, morbid; bad; not healthy.
PEDICLE, the final division of a common stem or stalk.
PEDUNCLE, the flower-stalk of a plant.
PELLET a little ball.
PELLICLE, a thin skin or film.
PELT, a beast's skin, with hair on it; a raw hide.
PELTATO-PALMATE, having the shape of a hand, and of a rough, hairy texture.
PELVIS, the cavity of the body forming the lower part of the abdomen.
PENDULOUS, hanging from a stem or branch.
PERCH, a pole; a roost for fowls.
PERCOLATION, the act of filtering or straining.
PERENNIAL, lasting through the year; a plant which lives more than two years.
PERFORATE, to bore through; to make a hole or holes through anything.
PERMEABLE, that may be passed through without displacement of its parts.
PERSPECTIVE, view in the distance.
PERVIOUS, that may be penetrated by another body or substance.
PETAL, a flower-leaf.
PETIOLE, a leaf-stalk; the foot-stalk of a leaf.
PHENOGAMOUS, having stamens and pistils distinctly visible.
PHOSPHATE, a salt formed by a combination of phosphoric acid with a base of earth, alkali or metal.
PILE, the hairy surface of an animal's skin.
PINNATE, divided into a number of pairs of leaflets.
PISTIL, an organ of female flowers adhering to the fruit for the reception of the pollen.
PLAIT, a fold; a tress; braid.
PLEDGET, a small, flat roll of lint or linen.
POLLARD, a tree lopped.
POLLEN, the fine fecundating dust or flour contained in flowers.
POLYGAMOUS, having male and hermaphrodite, or female and hermaphrodite, or male, female and hermaphrodite flowers, on the same or different plants.
POMACE, the substance of ground apples, either before or after the cider is expressed.
POROUS, filled with pores, which are passages in the skin or substance of a body.
POSTERIOR, coming after; the hinder.
POSTERN, back; any small door or gate.
PROBANG, an instrument of whalebone and sponge, for clearing the throat or gullet.
PROBOSCIS, a snout; an organ formed by the prolongation of the nose.
PROLEGS, fore legs.
PROPOLIS, a thick, oderous substance, resembling wax.
PUBESCENT, covered with down or hair.
PUPA, an insect in that state in which it resembles an infant in swaddling clothes.
PURGATIVE, having the power of cleansing; evacuating the bowels.
PURGE, a medicine that evacuates the bowels by stool.
PUS, the white or yellowish matter generated in ulcers and wounds.
QUADRANGULAR, square; having four sides, and four prominent angles.
QUICKLIME, any limy substance deprived of its fixed or carbonic air.
RACEMOSE, having the flowers arranged along an axis, as in the hyacinth and currant.
RACHIS, a stem that proceeds from the base to the top of the flower.
RATTOONING, sending up many stalks from an old root, several crops being thus gathered from one planting.
RECTANGULAR, right-angled.
RECTUM, the third and last of the large intestines.
REFLECTED, bent, or directed backward.
RENIFORM, having the shape of kidneys.
RICK, a long pile of grain or hay, sheltered with a kind of roof.
ROOTLET, a small root, or the fiber of a root.
RUGOSE, a leaf with veins more contracted than the surface.
RUMP, the end of the backbone of an animal, with the parts adjacent.
SACCHARINE, having the qualities of sugar.
SALINE, consisting of salt.
SCAPE, the flowering stem of a plant.
SCARIFY, to scratch; to make small incisions in the skin with an instrument.
SCION, a young shoot, twig or sprout of a tree.
SCROTUM, the place containing the organs of generation.
SCULLERY, a place where dishes, kettles, etc., are kept.
SEEDLING, a young plant or root just sprung from the seed.
SEGMENT, a part cut off or divided.
SEMILUNAR, resembling in form a half moon.
SEPTIC, promotive of putrefaction.
SEROUS, thin; watery.
SERRATION, formation in the shape of a saw.
SERUM, thin, transparent part of blood; the thin part of milk.
SESSILE, applied to a leaf growing on a stem without having any foot-stalk.
SETIFORM, having the form of a bristle.
SETON, small threads, or a twist of silk, drawn through the skin by a large needle, for the discharge of humors.
SHEATH, a rudimentary leaf of a plant which wraps around the stem.
SHOCK, sixteen sheaves of wheat, rye, etc.
SLOT, a broad, flat, wooden bar.
SOLE, the bottom of a thing, and on which it stands upon the ground.
SOLITARY, growing singly.
SPATULA, a slice; an instrument for spreading plasters, etc.

SPERMATIC, consisting of seed, or pertaining to the elements of production.
SPIKE, a species of inflorescence, as in wheat, rye, etc.; an ear of corn or grain.
SPIKELET, a small spike; one of a great many small spikes collected in a mass, as in grass.
SPINE, a large, woody thorn.
SPIRACLE, a small aperture in animal and vegetable bodies through which air passes; any small hole or vent.
SPONGIOLE, a supposed expansion of minute parts at the termination of roots, like a sponge, for absorbing the nutriment of plants.
SPORE, SPORULE the part of flowerless plants which perform the function of seeds.
STALLION, a male horse not castrated.
STAMEN, an organ of flowers for the preparation of the pollen or fecundating dust.
STANDARD, a tree or shrub that stands singly without being supported.
STELLATE, when more leaves than two surround the stem in a ring; resembling a star; radiated.
STERNUM, the breast-bone.
STIFLE, the joint of a horse next to the buttock.
STIGMA, the top of the organ of female flowers.
STIPULE, a scale at the base of the leaf-stalks of some plants; or one which protects the young leaves.
STOMATA, oval spaces between the sides of cells, in plants, opening into other cavities, and bordered by a rim.
STOOL, a sucker; a shoot from the bottom of the stem or root of a plant.
STRATA, beds; layers.
STRIKE, the name given to a single running of ungranulated sugar.
STYLE, the middle portion of the organ of female flowers, connecting the stigma with the germ.
SUB-LANCEOLATE, having somewhat of a lance shape.
SUB-SESSILE, having very short foot-stalks.
SUBSOIL, the bed or layer of earth which lies beneath the surface-soil.
SUBULATE, shaped like an awl.
SUBULATE-LINEAR, having awl-shaped lines.
SUCCULENT, full of juice; juicy.
SUCKER, the shoot of a plant from the roots or lower part of the stem.
SULPHATE, a neutral salt, formed by sulphuric acid in combination with any base.
SULPHURIC, containing sulphur.
SUTURE, the seam or joint which unites the bones of the skull; a method of closing wounds.
SWARD, the grassy surface of land; turf.
SWATH, the whole breadth or sweep of a scythe in mowing or cradling.
TALC, a greasy-feeling magnesian mineral, having a pearly luster, used instead of chalk for tracing lines on wood, cloth, etc.
TARSI, belonging to the feet.
TASSELS, the flower ribbons, or heads of plants, as of corn.
TEMPORAL, pertaining to the temple or temples of the head.
TENSION, strained or stretched.
TENUOUS, thin; small; minute.
TEPID, moderately warm.
TERMINAL, growing at the end of a branch or stem; terminating.
TERRACE, a raised bank of earth, with sloping sides; a balcony.
TESTICLES, male organs of generation.
THORAX, the breast; the chest; the part of the body between the neck and abdomen; the second segment of insects.
TIBIÆ, the bones which form the second segment of the leg.
TONIC, a medicine that gives vigor and action to the system.
TRANSPIRATION, passing off through the pores of the skin.
TRANSVERSE, lying or being across, or in a cross direction; to overturn.
TRENCH, to cut or dig a ditch or channel; to fortify, by cutting a ditch and raising a rampart; to furrow, by plowing.
TREPANNING, opening the skull, to relieve the brain.
TRICHOTOMOUS, having three divisions.
TRIENNIAL, lasting for three years.
TRIFOLIATE, having three leaves or leaflets.
TROCAR, an instrument for tapping in case of dropsy.
TUBERCLE, a small swelling, tumor, knob, or rough point.
TUBEROUS, roundish, fleshy vegetable bodies, connected into a bunch by intervening threads.
TUNICATED, covered with a tunic or membrane; coated, as a stem.
UTERUS, the womb.
VACUUM, an empty space; one void of air or matter.
VALVE, a division of the fruit of a plant.
VELL, a skin; a rennet-bag.
VENTRAL, belonging to the belly.
VERANDAH, an open portico, formed by extending a sloping roof beyond the main building.
VERTEBRA, a joint of the spine or backbone of an animal.
VERTICAL, in a perpendicular direction.
VESTIBULE, the porch or entrance into a house; an ante-room.
VEXILLUM, the upper single petal of a flower like that of a pea.
VISCID, glutinous; sticky.
VIVIPAROUS, producing young in a living state.
WATTLE, the fleshy bunch under the throat of a cock or turkey.
WEAR, a dam in a river to stop and raise the water.
WHEY, the watery part of milk separated from the thick part, in making cheese.
WHORLED, an arrangement of three or more leaves or limbs around a common center.
WINDLASS, a machine for raising great weights; a handle by which anything is turned.
WITHERS, the junction of the shoulder-bones of a horse, at the bottom of the neck.
YOLK, the oily secretion from the skin of sheep, which renders the pile soft and pliable.
ZIG-ZAG, having short turns.

USEFUL INFORMATION.

DRESSED OR NET WEIGHT OF ANIMALS.

CATTLE.—Where cattle are sold by weight, instead of by the head, the live weight is understood. The live weight is obtained at the scales or perhaps more frequently estimated by the eye, or by measurement according to approved rules. Sometimes cattle are sold at so much a pound, to be weighed soon after killing. In some markets cattle are sold by the weight of the four quarters dressed, in which case the price is for the dressed meat, and does not include the offal, consisting of the feet, head, hide, the loose tallow, the blood and the entrails, which goes to the butcher for the expense of killing, selling and profit. But in nearly all large markets the selling *net weight* includes what is called the fifth quarter—that is, the head, hide and loose tallow. In comparing the cattle reports from different cities, it will be of service to keep these facts in mind.

When the animal is weighed alive, an agreed allowance is deducted for the offal or shrinkage. The proportion which the "carcass" weight of the animal, when cut up for the shambles, bears to the full weight of the animal when alive, is variously estimated by eminent authorities at from 44 to 72 per cent. This difference of percentage depends upon such circumstances as the breed, structure, condition, constitution, and age of the animal, each of which are instrumental in affecting the quantity of meat in the quarters, as also its density and specific gravity. For instance, a half-fatted beast must have one pound in 20 deducted from the whole weight, and 14 pounds for a cow that has had calves. Again, the specific gravity of the flesh of all perfect male animals is greater than that of the breeding females The density of the flesh, also, becomes less as the animal approaches maturity. All these varying circumstances, and many other contingencies, render it difficult to arrive at any positive rule, although many are given for the purpose. A good general rule for ascertaining the net weight, is to multiply the live weight by the decimal .605, if the ox is ripe fat, and if not, by .55; that is to say, that the offal and fluids of a lean ox weigh about as much as the beef and bones. An ox should not be weighed immediately after it has taken its food, when it will be too heavy, but after it has chewed its cud, and is again ready to eat.

In the absence of a weighing machine, the dead weight is calculated from measurement. The dead weight is supposed to lie within a cylinder, the length of which is from the point where the cervical and dorsal vertebræ join to the line of the tail, and the circumference being immediately behind the elbow of the foreleg.

Various rules, tables and instruments have been constructed for ascertaining the weight of animals from the measurement, some of which involve complicated arithmetical calculations, whilst others differ more or less in their results. All general rules and tables for ascertaining the exact relation subsisting betwixt the bulk of an ox's body and the weight of the flesh and bones, no matter how well they may be founded upon experimental tests, are all liable to error, and must therefore be considered in the light of approximations, although they are sufficiently accurate for all practical purposes. In making an application of the rules we shall give, it will be necessary to exercise the judgment in many cases requiring allowances for the imperfections of form and the various degrees of conditions when applying the tape-line. The line should be divided into feet and *tenths*, and thereby facilitate the multiplication by decimals. In applying the tape-line, the measurement must be made with accuracy; one inch added to the girth and length will in some cases cause an error of 30 pounds or more, and such an error may be caused by the position in which the animal may be standing. The rule which follows is the easiest understood, and about as good as any other for general use: First, see that the animal stands square; then with a tape-line (or cord) take the circumference just behind the shoulder-blade, and note the feet and inches. This is the girth. Then measure from the tail, which plumbs the line with the hinder part of the buttock, and direct the string along the back to

the forepart or point of the shoulder-blade, and this will be the length. Multiply the girth by the length, to find the superficial feet, and then multiply the superficial feet by 31 lbs., if the girth of the animal is less than 9 ft. and more than 7 ft ; by 23 lbs. if the girth is less than 7 ft. and more than 5 ft ; if less than 5 ft. and over 3 ft. in girth, multiply by 16 lbs.; and if less than 3 ft., multiply by 11 lbs.

The rule applies alike to cattle, calves, sheep and hogs, and farmers will find it of great assistance in their transactions with dealers where animals are sold by live weight, instead of by the head.

Calves.—These are almost universally sold by the pound to the butchers for the live or gross weight. A calf shrinks just about one-third in dressing ; that is, the carcass weighs about two-thirds of the live weight before being slaughtered. Small young calves in the New York markets are usually styled "bobs," and sometimes "kittens." These are generally sold by the head, without weighing.

Sheep.—Are sold more frequently by the head, though very often by the pound, live weight. Sheep shrink in dressing about one-half. This depends somewhat on the length or weight of the wool, and considerably, of course, on the fatness. In autumn, as a general rule for sheep in fair condition, the net weight of the dressed carcasses is estimated at about 5 to 5½ lbs., for each 10 lbs. of live weight.

Hogs.—These are usually sold, before killing, by the live weight, at an agreed price per pound. After killing, the pork is sold by the weight of the carcasses, including the head and feet, the entrails and loose fat being removed, and also the heart, liver and lights (lungs). The net weight varies less in hogs than in other animals. A general rule for medium hogs is to allow one pound in five for shrinkage. The old Kentucky rule for fat hogs is as follows: For the first hundred pounds of live weight deduct one pound in every four for offal. For what is over 100 lbs , up to 200 lbs., deduct one pound from every eight pounds for offal For what is over 200 lbs. up to 300 lbs., deduct one pound from every 16 lbs., for offal. All above 300 lbs. is counted net weight.

1st Example—From a hog weighing 164 lbs., alive, deduct 25 lbs. for the first 100 lbs., and 8 lbs. (1 in 8) for the 64 lbs , or 33 lbs. in all from the 164 lbs., leaving 131 lbs. for the dressed or net weight.

2d Example—From the live hog weighing 280 lbs., deduct 25 lbs. for the first 100 lbs., 12½ lbs. (1 in 8) for the second 100 lbs , and 5 lbs. (1 in 16) for the 80 lbs. ; in all 42½ lbs., leaving 237½ lbs. as the net or dressed weight.

3d Example—For a live hog weighing 400 lbs., deduct 25 lbs. for the first 100 lbs., 12½ lbs. for the second 100 lbs., and 6¼ lbs. for the 3d 100 lbs., and nothing for the fourth 100 lbs.—in all, say 44 lbs —leaving a net weight of 356 lbs. These figures will vary somewhat with the age, size of frame, and degree of fatness of the animal.

BEEF AND PORK.

Beef and pork are staple foods, and they are used in various states—fresh, salted, smoked, roasted, fried and boiled. When beef is intended to be eaten fresh, the *ribs* will keep the longest, and the rump the next. The round will not keep long, unless salted, and the brisket keeps the poorest of any.

The usual mode of preserving beef and pork is by salting, and when intended to be kept a long time, it is always salted with brine ; but for family use it should be salted dry, with good fine salt, without saltpetre (except for hams and shoulders), as brine dispels the juices of the meat, and saltpetre only serves to make the meat dry and give it an unnatural color.

TO CURE BACON.

The hogs should be slaughtered, cut up and salted the same day. In trimming it is important that the two shoulder veins be taken out. Get the best saltpetre and use about 1 lb. to a hog of 300 lbs , and more or less, according to the size. Rub a little on the skin-side, and sprinkle it on the other ; then lay the meat in a tub or box, of sufficient capacity to hold it all, putting in the hams, first covering them thoroughly with fine salt, then place in the shoulders, and then the sides until all are packed. Be careful to cover each layer with a good coat of salt as you put in the meat, and when all is done cover all over the top with fine salt. Let it lie three weeks ; then hang up to smoke. Always pound and dry by fire, the salt and saltpetre before using.

TO CURE HAMS.

For every 100 pounds weight of hams, take five ounces of brown sugar, four ounces of saltpetre, and five gills of fine salt; mix them thoroughly, rub it on the hams, and let them lie 24 hours. Then rub each 100 pounds weight with 5 pounds of fine salt. The rubbing should be well done. Pack them closely in bulk, and at the expiration of fifteen days hang them up to smoke.

Another receipe, said to be that by which the celebrated Westphalian hams are cured, is to prepare a brine with 6 pounds of good salt, 2 pounds of powdered loaf sugar, 3 ounces of saltpetre, and 3 gallons of spring water. Boil sufficiently, and skim it while boiling. When quite cold pour it over the hams, every part of which must be covered with the brine. Hams intended for smoking will be sufficiently salted in this brine in two weeks, though if very large, more time may be allotted. Hams, before they are put in the pickle, should be soaked in water, all the blood pressed out, and wiped dry. Much of the excellence of the ham is dependent on the smoking. This should be done so that the hams shall be cool and perfectly dry through the whole operation. If too near the fire, the heat

will injure the flavor; if the building be too close the hams will be wet, and taste as if dipped in pyroligneous acid. At Hamburg, where large quantities are prepared, the hams are smoked in the upper story of high buildings, while the fires, which are made of oak or maple chips, are made in the cellars. In passing through such a length of pipe the smoke becomes cool and dry. Hams intended for summer use must be kept where they will not mold, and protected by being coated with a wash, or with cloth.

TO PROTECT HAMS AND SHOULDERS FROM INSECTS.

Take them down, after having been well dried and smoked, and apply thickly upon the flesh side and hock the following preparation, and when dry pack them down in perfectly dry spent tan-bark or shucks, or lay them up in a dry place upon sticks, skin down. Take a peck of sifted ashes and boil them in a large quantity of water; dip off the water and add a peck of wheat-bran, and sufficient water to make a *loblolly* when boiled and stirred. This does not affect the flavor of the hams.

Or, take slaked lime sufficient for the number of hams; mix the lime with water, and boil to the same consistency as for whitewashing. Apply with a brush, when cold, to the flesh side of the ham, and on all the parts unprotected by the skin. When dry hang up the hams, or pack them away as before suggested.

It will be useless to apply either of these preparations if delayed until the fly has deposited its eggs.

SAUSAGE.

The following proportions will be found to make excellent sausage meat, and will save the trouble of expirimenting by cooking and tasting:

To 50 pounds of meat well chopped, add 1 pound of salt, ¼ pound of black pepper, ¼ pound of sage (pulverized and sifted), and 1 teaspoonful of Cayenne pepper (pulverized).

DIRECTIONS FOR PUTTING UP PRIME MESS PORK.

The following standard rule, known as "Getty's Directions," are those given for putting up prime mess pork, to meet the requirements of the English market. They are also adopted and made imperative in contracts given out for army supplies by the United States Government.

Quality and Weight of Pigs.—The pigs to weigh from 100 to 160 pounds each, and to be in good condition, strictly corn-fed, or hard pork. For the United States army the weight may be extended to 170 pounds.

Parts Excluded.—The head is to be excluded, also the foreleg up to the breast or brisket, the hind leg, including the hock or gambrel joint, and the rumps, if the hams are not cut up with the sides.

What Constitutes a Barrel of Prime Mess.—A barrel of prime mess consists of fifty pieces of four pounds each. If the hams are cut up and put in, there shall be not less than 23 side pieces; if without hams, not less than 30 side pieces.

How to Cut and Cure.—After the pig has been split through the back, cut each side longitudinally into two strips; pack the strips into large casks or vats, and fill up with brine, having saltpetre added at the rate of one ounce to three gallons of brine. Leave the strips in the brine for eight or ten days to extract the blood, and for the lean meat to take a pink color. When ready to be packed into barrels, have each strip carefully cleaned, using a knife and brush if necessary; cut them into four-pound pieces as nearly as may be. Mess (select the pieces) as indicated, and pack neatly and compactly in layers, with sufficient salt to preserve it.

Barrels.—The barrel should be twenty-eight inches long, and seventeen and a half inches over the end (when finished) made of seasoned white oak, free from sap, full bound with hickory or white oak hoops and one iron hoop (one inch wide) on each end below the chine-hoop

Theory of Messing.—Pigs averaging say 145 pounds, will work up in messing about as follows: When the side, including the hams, is cut up, there will be 23 or 24 pieces of side meat, 8 pieces of ham or saddle, and 18 or 19 pieces of shoulder and neck to the barrel; excluding the hams, the number of side pieces will be increased to 31 or 32. In no case should there be more than 6 pieces of the leg part of the shoulder put in the barrel.

TO PRESERVE BEEF.

(1.) Take 12 gallons of water, 27 pounds of fine salt, 10 oz. of saltpetre, 8 pounds of brown sugar, 1 quart of molasses, and 1 quart of lye or 1 ounce of potash; mix them together, after rolling the saltpetre fine. After being thoroughly prepared, the pickle should float an egg or a potatoe; if it does not, add more salt. The meat should lie *four weeks* in pickle before use. After once using, if the pickle turns red, boil it and add a little salt, and it may be used a second time. This preparation will cure as much beef as it will cover in a barrel. The beef must be packed in close and a weight put on the top layer to keep it under the brine.

Another method for curing beef is to take 16 quarts of salt, 4 ounces of saltpetre, and 5 pounds of sugar for each 100 pounds of beef. Rub the pieces thoroughly with salt and sugar, and pack them in edgeways, and after a layer is complete, take a mallet or maul and pound down solid; then sprinkle on a little saltpetre, and fill up all interstices with salt and a little sugar, and so on until the cask is full. Those who do not like saltpetre may omit *it without injury to the meat.*

BARLEY STATEMENT.

Price per Bu.		Amount Paid.		Balance Due		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

BARLEY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balan Due Dollars.

BARLEY STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

BARLEY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Bu. Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu Dollars. Ct.	Amount Paid. Dollars. Cts.	Bala Du Dollars.

BUCKWHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No. Bu.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

BUCKWHEAT STATEMENT.

DONOHUE & HENNEBERRY PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal D Dollar

BUCKWHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
...llars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

BUCKWHEAT STATEMENT.

DONOHUE & HENNEBERRY PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Bu. Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars. Cts.	Amount Paid. Dollars. Cts.	Bal D Dollar

BROOM CORN STATEMENT.

Price per Ton.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Tons.	Dollars. Cts	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

BROOM CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Tons Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bala Du Dollars.

BROOM CORN STATEMENT.

Price per Ton.	Amount Paid.		Balance Due.		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts	Tons.	Dollars.	Cts	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

BROOM CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Tons Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal: D: Dollars

BILLS RECEIVABLE.

E. D.	NAME OF MAKER.	WHAT INDEBTEDNESS.	Amount. Dolls.	Amount. Cts.	When Due. Day.	When Due. Mo.	When Due. Yr.	By Whom Paid.	When Paid. Day	When Paid. Mo.	When Paid. Yr.	Amount Paid Dolls.	Amount Paid Cts.

BILLS RECEIVABLE.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	NAME OF MAKER.	WHAT INDEBTEDNESS.	Amount. Dolls.	Cts.	When Due. Day.	Mo.	Yr.	By Whom Paid.	When Paid. Day.	Mo.	Yr.	Amount Dolls

BILLS RECEIVABLE.

E. D.	NAME OF MAKER.	WHAT INDEBTEDNESS.	Amount.		When Due.			By Whom Paid.	When Paid.			Amount Paid	
			Dolls.	Cts.	Day.	Mo.	Yr.		Day.	Mo.	Yr.	Dolls.	Cts.

BILLS RECEIVABLE.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18____ Mo.	D.	NAME OF MAKER.	WHAT INDEBTEDNESS.	Amount. Dolls.	Cts.	When Due. Day	Mo.	Yr.	By Whom Paid.	When Paid. Day.	Mo.	Yr.	Amount Dolls

CATTLE STATEMENT.

Weight.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dollars.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

CATTLE STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid Dolls. Cts.	B.. D.. Doll

CATTLE STATEMENT.

Weight.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dollars.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

CATTLE STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Bal. Du Dolls.

CATTLE STATEMENT.

Weight.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	*Cts.*	*Dollars.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*		*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts*	*Dolls.*	*Cts.*

CATTLE STATEMENT.

...E & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 . Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Bal. Du Dolls.

CATTLE STATEMENT.

Weight.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	*Cts.*	*Dollars.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*		*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts*	*Dolls.*	*Cts.*

CATTLE STATEMENT.

OHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Balance Due Dolls.

CATTLE STATEMENT.

Weight.	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dollars.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts	Dolls.	Cts.

CATTLE STATEMENT.

UE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Bala Du Dolls.

CATTLE STATEMENT.

Weight.	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received		Profit.		Loss.	
	Dolls.	Cts.	Dollars.	Cts.	Dolls.	Cts	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

CATTLE STATEMENT.

OHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or - - - Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Bal D Dol

CATTLE STATEMENT.

Weight.	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dollars.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Ct.	Dolls.	Cts.

CATTLE STATEMENT.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Ba... Do...

CATTLE STATEMENT.

Weight	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value		Total Expenditure.		Total Amount Received		Profit.		Loss.	
	Dolls.	Cts.	Dollars.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

CATTLE STATEMENT.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18.... M. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Ba D

CONTRACT STATEMENT.

TE. Day.	BY WHOM GIVEN.	ADDRESS OF MAKER.	IN FAVOR OF	ON WHAT OFFICE.	Amount of Order. Doll's. Cts.	Endorsed to	Where Deposited.

CONTRACT STATEMENT.

HUE & HENNEBE . PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. Yr.	Mo.	Day	PARTIES TO THE CONTRACT.	WHAT DOES CONTRACT RELATE TO	Time to Run.	Amount Paid. Dolls.	Cts.	To Whom Paid.	Balance Due. Dolls.	Cts.	Amount Rec'd Dolls.	Cts.	Balance Due. Dolls.	Cts.	C

CONTRACT STATEMENT.

TE. Day.	BY WHOM GIVEN.	ADDRESS OF MAKER.	IN FAVOR OF	ON WHAT OFFICE.	Amount of Order. Dolls. Cts.	Endorsed to	Where Deposited.

CONTRACT STATEMENT.

UE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. Mo. Day.	PARTIES TO THE CONTRACT.	WHAT DOES CONTRACT RELATE TO	Time to Run.	Amount Paid. Dolls. Cts.	To Whom Paid.	Balance Due. Dolls. Cts.	Amount Rec'd Dolls. Cts.	Balance Due. Dolls. Cts.	C

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed. No. Bu.	Value.	Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO

Description.	No. Bu. Raised	VALUE. Dollars	Cts.	Bought From or Sold To	No. Bu.	Price Per Bu.	Amount	Date Delivered

CORN STATEMENT.

Price per B..	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No Bu.	Value Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... M. D.	Description.	No. Bu. Raised.	VALUE. Dollars.	VALUE. Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Price Per Bu. Cts.	Amount Paid. Dollars.	Amount Paid. Cts.	Balance Due. Dollars.

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DATE. 18.	Description	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balar Du Dollars.

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DATE. 18..... M. D.	Description.	No. Bu. Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars. Cts.	Amount Paid. Dollars. Cts.	Bala Du Dollars.

CORN STATEMENT.

Price per Bu.	Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars. Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars. Cts	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal. D

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From . or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balance Due. Dollars.

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.		Dollars	Cts.	Dollars	Cts.	Dollars. Cts.		Dollars. Cts.		

CORN STATEMENT.

DONNELLEY & NEUNESER VT., PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18.....	Description.	No. Bu.	VALUE. Dollars	Ct.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars	Ct.	Amount Paid. Dollars	Cts.	Balar Due Dollars

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received		Profit.		Loss.		REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.		Dollars. Cts.		Dollars. Cts.		Dollars. Cts.		Dollars. Cts.		

CORN STATEMENT.

LONGLEY & MANDERSON, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18....	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars	Ct.	Amount Paid. Dollars	Cts.	Bala Du Dollars
M.											

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value Dollars. Cts.	Dollars. Cts.		Dollars. Cts.		Dollars. Cts.		Dollars. Cts.		Dollars. Cts.		

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18....	Description	No. Bu.	VALUE.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars	Cts.	Amount Paid. Dollars	Cts.	Balance Due Dollars

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed. No. Bu	Am't Consumed. Value	Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO

DATE. 18..	Description.	No. Bu. Raised.	VALUE. Dollars.	VALUE. Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars.	Price Per Bu. Ct.	Amount Paid. Dollars.	Amount Paid. Ct.	Bala Du Dollars.
[illegible]											

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed. No. Bu.	Am't Consumed. Value.	Labor Expense.	Total Expenditure	Total Amount Received	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollar Ct.	Dollars. Cts.	

CORN STATEMENT.

DATE. 18.....	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars	Cts.	Bala Du Dollars

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Bu. Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars. Cts.	Amount Paid. Dollars. Cts.	Balance Due. Dollars.

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18	Description	No. Bu. Received	VALUE. Dollars	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars.	Ct.	Amount Paid. Dollars	Cts.	Bal Du Dollars
Mr. [illegible]											

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18. .	Description.	No. Bu. Raised.	VALUE. Dollars.	VALUE. Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars.	Price Per Bu. Cts.	Amount Paid. Dollars	Amount Paid. Cts.	Bala Du Dollars.

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed. No. Bu.	Value.	Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18....	Description	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal. D Dollar

CORN STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

CORN STATEMENT.

DONNELLEY, HUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18.. Mo. ..	Description.	No. Bu.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars.	Ct	Amount Paid Dollars.	Cts.	Bala D Dollar

DAIRY STATEMENT.

Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	DESCRIPTION.	No. Cows Milked.	No. Lbs. Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls.	Price. Cts.	Amount Paid. Dolls.	Amount Paid. Cts.	Bala Du Dolls.

DAIRY STATEMENT.

in e. t.	Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	DESCRIPTION.	No. Cows Milked.	No. Lbs. Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balan Due Dolls.

DAIRY STATEMENT.

Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	DESCRIPTION.	No. Cows Milked.	No. Lbs. Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls.	Price. Cts.	Amount Paid. Dolls.	Amount Paid. Cts.	Balan Due Dolls.

DAIRY STATEMENT.

...l in ...ge. ...ots.	Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	DESCRIPTION.	No. Cows Milked.	No. Lbs. Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due. Dolls.

DAIRY STATEMENT.

ł in ge.	Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	DESCRIPTION.	No. Cows Milked.	No. Lbs Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls.	Price. Cts.	Amount Paid. Dolls.	Amount Paid. Cts.	Balance Due Dolls.	Balance Due Cts.

DAIRY STATEMENT.

in	Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
ge.															
ts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	DESCRIPTION.	No. Cows Milked.	No. Lbs. Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls.	Price. Cts.	Amount Paid. Dolls.	Amount Paid. Cts.	Balance Due Dolls.	Balance Due C.

DAIRY STATEMENT.

Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	DESCRIPTION.	No. Cows Milked.	No. Lbs Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls.	Price. Cts.	Amount Paid. Dolls.	Amount Paid. Cts.	Balance Due. Dolls.	Balance Due. (

DAIRY STATEMENT.

Value Consumed.		Feed.		Labor.		Total Expenditure.		Total Receipts.		Profit.		Loss.		REMARKS.
Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	

DAIRY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	DESCRIPTION.	No. Cows Milked.	No. Lbs Butter.	No. Gals. Sw't Milk.	No. Gals. Sour Milk.	No. Gals. Cre'm	No. Lbs. Ch'se	SOLD TO	Price. Dolls. Cts.	Amount Paid. Dolls. Cts.	Balance Due. Dolls.

FLAX STATEMENT.

Price per Bu.		Amount Paid.		Balance Due.		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
						No. Bu.	Value.												
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.		Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

FLAX STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balan Due Dollars.

FLAX STATEMENT.

Price per Bu.		Amount Paid.		Balance Due.		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
						No.	Value.												
lars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Bu.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

FLAX STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18____ Mo. D.	Description.	No. Bu. Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars. Cts.	Amount Paid. Dollars. Cts.	Balance Due. Dollars.

GARDEN STATEMENT.

Price.	Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Quan.	Value.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

GARDEN STATEMENT.

DONCHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	Quan. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	Quan. Bo't	Price. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal. Dollars.

GARDEN STATEMENT.

Price.		Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
ollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Quan.	Value.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

GARDEN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	Quan. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	Quan. Bo't	Price Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bala D Dollar.

GARDEN STATEMENT.

Price.		Amount Paid.		Balance Due		Am't Consumed.				Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Quan.	Value.													
							Dollars.	Cts.		Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

GARDEN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	Quan. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	Quan. Bo't	Price. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal. D. Dollars.

GARDEN STATEMENT.

Price.		Amount Paid.		Balance Due		Am't Consumed.				Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars	Cts.	Dollars.	Cts	Quan.	Value.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

GARDEN STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	Quan. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	Quan. Bo't	Price. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal. D Dollar

HEMP STATEMENT.

Price.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

HEMP STATEMENT.

SCHOLE & MEINHEERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Tons or Bu. Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Tons or Bu. Bo't	Price. Dollars. Cts.	Amount Paid. Dollars. Cts.	Bala D. Dollars

HEMP STATEMENT.

Price.		Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars. Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

HEMP STATEMENT.

...CH, E & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Tons or Bu. Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Tons or Bu. Bo't	Price. Dollars. Cts.	Amount Paid. Dollars. Cts.	Bal: D... Dollar

HAY STATEMENT.

Price per Ton.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Tons	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Tons Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal D Dollar

HAY STATEMENT.

Price per Ton.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Tons	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Tons Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bala Du Dollars.

HAY STATEMENT.

Price per Ton.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
ollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Tons	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Tons Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balance Due Dollars.

HAY STATEMENT.

Price per Ton.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Tons	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Tons Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balar Due Dollars.

HAY STATEMENT.

Price per Ton.		Amount Paid.		Balance Due.		Am't Consumed.			Labor Expense		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Tons	Value. Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts	Dollars	Cts.	Dollars.	Cts.	Dollars.	Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Tons Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars. Cts.	Amount Paid Dollars. Cts.	Balance Due. Dollars.

HAY STATEMENT.

Price per Ton.		Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Tons	Value. Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Tons Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars. Cts.	Amount Paid. Dollars. Cts.	Bala Du Dollars.

HAY STATEMENT.

Price per Ton.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Tons	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Tons Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balance Due. Dollars.

HAY STATEMENT.

Price per Ton.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Tons	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

HAY STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Tons Raised.	VALUE. Dollars. Cts.	Bought From or Sold To	No. Tons Bo't	Price Per Ton. Dollars. Cts.	Amount Paid. Dollars. Cts.	Balan Due Dollars.

HOG STATEMENT.

Weight	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 ..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due. Dolls.	Cts.

HOG STATEMENT.

Weight	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts	Dolls.	Cts.		Dolls	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due. Dolls.	Cts.

HOG STATEMENT.

Weight	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Balance Due. Dolls. Ct.

HOG STATEMENT.

Weight	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value		Total Expenditure		Total Amount Received		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts	Dolls.	Cts	Dolls.	Cts	Dolls.	Cts.		Dolls	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Balance Due. Dolls. Cts.

HOG STATEMENT.

Weight.	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

...OHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... M. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo t	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Balance Due. Dolls. Cts.

HOG STATEMENT.

Weight	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 ..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due. Dolls.	Cts.

HOG STATEMENT.

Weight.	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts	Dolls.	Cts	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 ..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Balance Due. Dolls. Cts.

HOG STATEMENT.

Weight	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HOG STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due. Dolls.	Cts.

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT

DHUE & MENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	B Do

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls	Cts.	Dolls.	Cts	Dolls.	Cts	Dolls.	Cts.		Dolls	Cts.	Dolls	Cts	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Bal D Dolls

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT.

HUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls.	Cts.	Amount Paid Dolls.	Cts.	Bala Du Dolls.

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls	Cts.	Dolls.	Cts	Dolls.	Cts	Dolls.	Cts.		Dolls	Cts.	Dolls	Cts	Dolls	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT.

UE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due Dolls.

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT.

HUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls. Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls. Cts.	Amount Paid. Dolls. Cts.	Bala Du Dolls.

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT.

E & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	Description.	No. Raised.	VALUE. Dolls	VALUE. Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls.	Price Cts.	Amount Paid. Dolls.	Amount Paid. Cts.	Balar Due Dolls.

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT.

JE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Bala D Dolls.

HORSE & MULE STATEMENT.

Hands High.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure.		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

HORSE & MULE STATEMENT.

HUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls.	Cts.	Bought From or Sold To	No. Bo't	Hands High.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Bal. D Dolls.

GROCERIES.

TE D.	BOUGHT OF	Bill Rendered for Months of	For		Paid.		Balance Due.		Final Payment.		REMARKS.
			Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	

IMPLEMENTS.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO

DATE. 18..... Mo. D.	BOUGHT OF	DESCRIPTION.	Price. Dolls.	Price. Cts.	Amount Paid. Dolls.	Amount Paid. Cts.	Balance Due. Dolls.	Balance Due. Cts.	No. Days From Date.	Final Payment. Dolls.	Final Payment. Cts.	REMARKS.

GROCERIES.

DATE 18	BOUGHT OF	Bill Rendered for Months of	For		Paid.		Balance Due.		Final Payment.		REMARKS.
			Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

IMPLEMENTS.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 . Mo.	D.	BOUGHT OF	DESCRIPTION.	Price. Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due Dolls.	Cts.	No. Days From Date.	Final Payment. Dolls.	Cts.	REMARKS.

OATS STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

OATS STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Ba D Dollar

OATS STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

OATS STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal D Dollar.

OATS STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No. Bu.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

OATS STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bala Du Dollars.

OATS STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Bu.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

OATS STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18____ Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balance Due Dollars.

OATS STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

OATS STATEMENT.

DATE. 18..... M. D.	Description.	No. Bu. Raised.	VALUE. Dollars.	VALUE. Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Price Per Bu. Cts.	Amount Paid. Dollars.	Amount Paid. Cts.	Balan Due Dollars.

OATS STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
...llars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

OATS STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balance Due Dollars.

OATS STATEMENT.

Price per Bu.	Amount Paid.		Balance Due.		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars. Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

OATS STATEMENT.

DATE. 18 ... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balance Due Dollars.

OATS STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received	Profit.	Loss.	REMARKS.
			No. Bu.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

OATS STATEMENT.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balai Du Dollars.

REAL ESTATE RENTED.

Where and how to be Delivered.	Price per Acre.		Amount.		When Delivered.			When Paid.			Amount.		REMARKS.
	Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Day.*	*Mo.*	*Yr.*	*Day.*	*Mo.*	*Yr.*	*Dolls.*	*Cts.*	

REAL ESTATE RENTED.

OHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 ..... Mo. D.	RENTED TO OR FROM.	DESCRIPTION.	Sec.	Twp.	R.	Lot.	Blk.	W Sl C

REAL ESTATE RENTED.

Where and how to be Delivered.	Price per Acre.		Amount.		When Delivered.			When Paid.			Amount.		REMARKS.
	Dolls.	Cts.	Dolls.	Cts.	Day.	Mo.	Yr.	Day.	Mo.	Yr.	Dolls.	Cts.	

REAL ESTATE RENTED.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18		RENTED TO OR FROM.	DESCRIPTION.	Sec.	Twp.	R.	Lot.	Blk.
Mo.	D.							

REAL ESTATE SOLD.

CHASE MONEY DUE				Rate of Int.	Interest Paid.		Taxes Paid.		Incum-brance Assumed.		Incidental.		Total Amount Received.		REMARKS.
Mo.	Yr.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

REAL ESTATE SOLD.

OHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	SOLD TO	DESCRIPTION.	Sec.	Twp.	R	Lot.	Blk	Price. Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Bala Du Dolls.

REAL ESTATE SOLD.

CHASE MONEY DUE				Rate of Int.	Interest Paid		Taxes Paid.		Incum-brance Assumed.		Incidental.		Total Amount Received.		REMARKS.
Mo.	Yr.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

REAL ESTATE SOLD.

DATE 18	SOLD TO	DESCRIPTION.	Sec.	Twp.	R.	Lot.	Blk.	Price	Amount Sold	Bal D
								Dollars Cts.	Dollars Cts.	Dollars

DRY GOODS, &c.

ATE 3..... D.	BOUGHT OF	Bill Rendered for Months of	For Dolls. Cts.	Paid. Dolls. Cts.	Balance Due. Dolls. Cts.	Final Payment. Dolls. Cts.	REMARKS.

REPAIRS.

DONOR E. A. HENNEL... F. ...TEIN, ENGRAVERS AND ELECTROS, CHICAGO

DATE. 18 Mo. D.	WORKMAN.	Article Repaired.	Price of Work. Dolls. Cts.	Amount Paid Dolls. Cts.	Balance Due Dolls. Cts.	No. Days From Date.	Final Payment. Dolls. Cts.	REMARKS.

DRY GOODS, &c.

ATE ..... D.	BOUGHT OF	Bill Rendered for Months of	For		Paid.		Balance Due.		Final Payment.		REMARKS.
			Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

REPAIRS.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 M. D.	WORKMAN.	Article Repaired.	Price of Work. Dolls. Cts.	Amount Paid Dolls. Cts.	Balance Due Dolls. Cts.	No. Days From Date.	Final Payment. Dolls. Cts.	REMARKS.

RYE STATEMENT.

Price per Bu.	Amount Paid.		Balance Due		Am't No. Bu.	Consumed Value.		Labor Expense.		Total Expenditure		Total Amount Received		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.		Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

RYE STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18____ Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars	Cts.	Amount Paid. Dollars.	Cts.	Ba. D. Dollar

RYE STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed		Labor Expense.	Total Expenditure	Total Amount Received	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

RYE STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu Bo't	Price Per Bu. Dollars	Cts.	Amount Paid. Dollars.	Cts.	Bala D Dollars.
No. 9											

SHEEP STATEMENT.

Weight.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.

SHEEP STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Raised.	VALUE. Dolls	Cts.	Bought From or Sold To	No. Bo't	Weight.	Price Dolls.	Cts.	Amount Paid. Dolls.	Cts.	Balance Due. Dolls.	Cts.

SHEEP STATEMENT.

Weight.	Price		Amount Paid.		Balance Due.		Value Consumed		Labor and Feed.		No. Died	Value.		Total Expenditure		Total Amount Received.		Profit.		Loss.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Ct	Dolls.	Cts.

SHEEP STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18	Description.	No. Raised.	VALUE.	Bought From or Sold To	No. Bo't	Weight.	Price	Amount Paid.	Balance Due.
Mo. D.			Dolls. Cts.				Dolls. Cts.	Dolls. Cts.	Dolls. Cts.

SUGAR CANE STATEMENT.

Price.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Quan	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

SUGAR CANE STATEMENT.

EONCHIE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS

DATE. 18..... Mo. D.	Description.	Quan.	VALUE. Dollars. Cts.	Bought From or Sold To	Quan	Price	Amount Paid / Bal. Due
				Bal:			

SUGAR CANE STATEMENT.

Price.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense,	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Quan	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

SUGAR CANE STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	Quan. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	Quan. Bo't	Price. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Ba D Dolla

TIMBER STATEMENT.

Price.		Amount Paid.		Balance Due.		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Quan.	Value.		Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	
							Dollars.	Cts											

TIMBER STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	Quan. on Hand.	VALUE. Dollars.	Cts.	Bought From or Sold To	Quan. Bo't	Price. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Ba D Dollar

TIMBER STATEMENT.

Price.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			Quan.	Value.						
ollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

TIMBER STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO

DATE. 18.....	Description.	Quan. on Hand.	VALUE. Dollars.	VALUE. Cts.	Bought From or Sold To	Quan Bot	Price. Dollars	Price. Cts	Amount Paid Dollars	Amount Paid Cts	Ba Dolla

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR			Balance Due.		REMARKS.
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE.

18.....

Mo. *D.*

NAME.

NUMBER DAYS WORKED.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR		Balance Due.		REMARKS.
Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*		*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE.

18.....

Mo. *D.*

NAME.

NUMBER DAYS WORKED.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR			Balance Due.		REMARKS.
Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*		*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	NAME.	NUMBER DAYS WORKED.
		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR			Balance Due.		REMARKS.
Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*		*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE.

18.....

Mo. *D.*

NAME.

NUMBER DAYS WORKED.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR			Balance Due.		REMARKS.
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE.

18.....

NAME.

NUMBER DAYS WORKED.

M. D.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 3

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR		Balance Due.		REMARKS.
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE.

18.....

Mo. D.

NAME.

NUMBER DAYS WORKED.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	3

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR	Balance Due.				REMARKS.
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.		Dolls.	Cts.	Dolls.	Cts.	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE.

18.....

Mo. D.

NAME.

NUMBER DAYS WORKED.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 3

TIME & LABOR STATEMENT.

Price per Day.		Price per Month.		Total Amount.		RECEIVED PAYMENT FOR			Balance Due.		REMARKS.
Dolls.	*Cts.*	*Dolls.*	*Cts.*	*Dolls.*	*Cts.*		*Dolls.*	*Cts.*	*Dolls.*	*Cts.*	

TIME & LABOR STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18.....	NAME.	NUMBER DAYS WORKED.																											
No.	D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

WHEAT STATEMENT.

Price per Bu.	Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dols. Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars. Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars	Cts.	Dollars	Cts.	

WHEAT STATEMENT.

MONOH... PRINTERS, ENGRAVERS AND ... CHICAGO.

DATE. 18..	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	B Col.

WHEAT STATEMENT.

Price per Bu.	Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dus. Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars. Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	B Doll

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No. Bu.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	B Doll

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Ba Doll

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	B. Doll.

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Ba Dolla

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Bu.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DATE. 18.. M. D.	Description.	No. Bu. Raised	VALUE. Dollars.	VALUE. Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Price Per Bu. Cts.	Amount Paid. Dollars.	Amount Paid. Cts.	Bal D

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No. Bu.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.		Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal D Dollar

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
			No.	Value.						
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Bu.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Ba D

WHEAT STATEMENT.

Price per Bu.		Amount Paid.		Balance Due.		Am't Consumed.		Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars. Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

WHEAT STATEMENT.

DATE. 18..	Description.	No. Bu. Raised	VALUE. Dollars	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars	Cts.	Amount Paid. Dollars.	Cts.	Balar Du Dollars.

WHEAT STATEMENT.

Price per Bu.		Amount Paid.		Balance Due		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	No. Bu.	Value. Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS

DATE. 18....	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balan Due Dollars.

WHEAT STATEMENT.

Price per Bu.		Amount Paid.		Balance Due.		Am't Consumed.			Labor Expense.		Total Expenditure		Total Amount Received.		Profit.		Loss.		REMARKS.
						No. Bu.	Value.												
Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.		Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	Dollars.	Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Bal D Dollar

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balar Du Dollars.

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due.	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Ct.	Amount Paid. Dollars.	Cts.	Balan Due Dollars.

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received.	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18.... .. M. D.	Description.	No. Bu. Raised.	VALUE. Dollars.	VALUE. Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Price Per Bu. Cts.	Amount Paid. Dollars.	Amount Paid. Cts.	Balan Due Dollars.

WHEAT STATEMENT.

Price per Bu.	Amount Paid.	Balance Due	Am't Consumed.		Labor Expense.	Total Expenditure	Total Amount Received	Profit.	Loss.	REMARKS.
Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	No. Bu.	Value. Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	Dollars. Cts.	

WHEAT STATEMENT.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo.	D.	Description.	No. Bu. Raised.	VALUE. Dollars.	Cts.	Bought From or Sold To	No. Bu. Bo't	Price Per Bu. Dollars.	Cts.	Amount Paid. Dollars.	Cts.	Balan Due Dollars.

CATTLE PEDIGREE.

eg. No. and Age.			Cost of Service.		TO WHOM PAID.	DATE PAID.			Date of Birth. Usual time is 9 Months.			Name of Calf, Reg. No.
Yr.	Mo.	Day	Dolls.	Cts.		Yr.	Mo.	Day.	Yr.	Mo.	Day.	

CATTLE PEDIGREE.

E & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	NAME OF COW.	Weight.	Color.	Height.	Reg. No. and Age of Cow. No. Yr. Mo. Day.	NAME OF BULL.	Weight.	Color.

CATTLE PEDIGREE.

g. No. and Age.			Cost of Service.		TO WHOM PAID.	DATE PAID.			Date of Birth. Usual time is 9 Months.			Name of Calf, Reg. No.
Yr.	Mo.	Day.	Dolls.	Cts.		Yr.	Mo.	Day.	Yr.	Mo.	Day.	

CATTLE PEDIGREE.

...DE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS CHICAGO.

DATE. 18..... Mo. D.	NAME OF COW.	Weight.	Color.	Height.	Reg. No. and Age of Cow. No Yr. Mo. Day.	NAME OF BULL.	Weight.	Color.

HOG PEDIGREE.

ST OF RVICE.		TO WHOM PAID.	WHEN PAID.			Date of Birth. Usual time 3 Mo. and 20 days.			No.	REMARKS.
s.	Cts.		Day.	Mo.	Yr.	Day.	Mo.	Yr.		

HOG PEDIGREE.

...HUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18	KIND OF SOW.	AGE OF SOW.	Reg. No.	NAME	Weight	Color.	No. Brd.	NAME OF BOAR.	Weight

HOG PEDIGREE.

ST OF RVICE.	TO WHOM PAID.	WHEN PAID.	Date of Birth. Usual time 3 Mo. and 20 days.	No.	REMARKS.
Cts.		Day. Mo. Yr.	Day. Mo. Yr.		

HOG PEDIGREE.

UE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 ___ Mo. D.	KIND OF SOW.	AGE OF SOW. Day. Mo. Yr.	Reg. No.	NAME.	Weight.	Color.	No. Bred	NAME OF BOAR.	Weight.

HORSE PEDIGREE.

Reg. No. and Age.			Record.		Cost of Service.		TO WHOM PAID.	DATE PAID.			Date of Birth. Usual time is 11 Months.			Name of Colt, Reg. No.
Yr.	Mo.	Day.	M.	S	Dolls.	Cts.		Yr.	Mo.	Day.	Yr.	Mo.	Day.	

HORSE PEDIGREE.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18.... Mo. D.	NAME OF DAM.	Weight.	Color.	Height.	Reg. No. and Age — No. Yr. Mo. Day.	Record. M. S.	NAME OF HORSE.	Weight.	Color

HORSE PEDIGREE.

Reg. No. and Age.			Record.		Cost of Service.		TO WHOM PAID.	DATE PAID.			Date of Birth. Usual time is 11 Months.			Name of Colt, Reg. No.
Yr.	Mo.	Day.	M.	S.	Dolls.	Cts.		Yr.	Mo.	Day.	Yr.	Mo.	Day.	

HORSE PEDIGREE.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 .... .. M. D.	NAME OF DAM.	Weight.	Color.	Height.	Reg. No. and Age — No.	Yr.	Mo.	Day.	Record M.	S.	NAME OF HORSE.	Weight.	Color

SHEEP PEDIGREE.

OST OF ERVICE.	TO WHOM PAID.	DATE PAID.	Date of Birth. Usual time is 4 Mo and 20 days.	No.	REMARKS.
s Ct.		Day. Mo. Yr.	Day Mo. Yr.		

SHEEP PEDIGREE.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18..... Mo. D.	NAME OF EWE.	AGE. Day. Mo. Yr.	Reg. No.	Name of Flock	Weight.	Color.	No. Served.	NAME OF BUCK AND FLOCK.	Weight.	Color.

SHEEP PEDIGREE.

ST OF RVICE.	TO WHOM PAID.	DATE PAID.			Date of Birth. Usual time is 4 Mo. and 20 days.			No.	REMARKS.
Cts.		Day.	Mo.	Yr.	Day.	Mo.	Yr.		

SHEEP PEDIGREE.

OHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

DATE. 18 .... Mo. D.	NAME OF EWE.	AGE Day. Mo. Yr.	Reg No.	Name of Flock	Weight.	Color.	No. Served.	NAME OF BUCK AND FLOCK.	Weight.	Color.

Testing of Milk and Production of Cows.

On ..... Farm during the year of 18 .....

NAME.	Age.	Date of Calving	Period of Test Commenced	Period of Test No. of Days.	Yield of Milk Qts.	VALUE OF PRODUCE. Milk.	Butter.	Cheese.	Skim Milk.	Manure.	Value of Calf.	Advance in Value of Cow.	TOTA

Profit and Loss upon Cows, and their Present Value.

On ..... Farm for the year of 18.....

NAME	Age.	BREED.	COST OF PRODUCTION.					Value of Produce.	Profit	Loss.	Present Value
			Food.	Labor.	Conveyance Charges.	Depreciation in Value.	Total.				

Testing of Milk and Production of Cows.

On.....Farm During the year of 18.....

NAME.	Age.	Date of Calving	Period of Test		Yield of Milk Qts.	VALUE OF PRODUCE.							TOTAL.
			Commenced	No. of Days.		Milk.	Butter.	Cheese.	Skim Milk.	Manure.	Value of Calf.	Advance in Value of Cow.	

Profit and Loss upon Cows, and their Present Value.

On . . . . . Farm for the year of 18.....

NAME	Age.	BREED.	COST OF PRODUCTION.					Value of Produce.	Profit	Loss.	P V
			Food.	Labor.	Conveyance Charges.	Depreciation in Value.	Total.				

YEARLY BALANCE SHEET.

...IE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts.	Ex-pense. Dolls.	Ex-pense. Cts.	For Year ending Dec. 31, 18.....
Barley							
Bills Payable							
Bills Receivable							
Broom Corn							
Buckwheat							
Castor Beans							
Cattle							
Cattle Pedigree							
Contract Statem't							
Corn							
Cotton							
Dairy							
Dry Goods							
Flax							
Fruits and Berries							
Garden							
Groceries							
Hay							
Hemp							
Hog							
Hog Pedigree							
Horse, Mule							
Horse Pedigree							
Implements							
Oats							
Poultry							
Real Est Bot							

Page

Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts.	Ex-pense. Dolls.	Ex-pense. Cts.	For Year ending Dec. 31, 18.....
Real Est Sold							
Real Est Rented							
Repairs							
Rice							
Rye							
Sheep							
Sheep Pedigree							
Sugar Cane							
Timber							
Time and Labor							
Wheat							
Miscellaneous							

YEARLY BALANCE SHEET.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

Page	Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts	Expense. Dolls.	Expense. Cts.	For Year ending Dec. 31, 18.....
	Barley							
	Bills Payable							
	Bills Receivable							
	Broom Corn							
	Buckwheat							
	Castor Beans							
	Cattle							
	Cattle Pedigree							
	Contract Statem't							
	Corn							
	Cotton							
	Dairy							
	Dry Goods							
	Flax							
	Fruits and Berries							
	Garden							
	Groceries							
	Hay							
	Hemp							
	Hog							
	Hog Pedigree							
	Horse, Mule							
	Horse Pedigree							
	Implements							
	Oats							
	Poultry							
	Real Est Bot							

Page	Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts.	Expense. Dolls.	Expense. Cts.	For Year endi Dec. 31, 18....
	Real Est Sold							
	Real Est Rented							
	Repairs							
	Rice							
	Rye							
	Sheep							
	Sheep Pedigree							
	Sugar Cane							
	Timber							
	Time and Labor							
	Wheat							
	Miscellaneous							

YEARLY BALANCE SHEET.

NOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts.	Ex-pense. Dolls.	Ex-pense. Cts.	For Year ending Dec. 31, 18.....
Barley							
Bills Payable							
Bills Receivable							
Broom Corn							
Buckwheat							
Castor Beans							
Cattle							
Cattle Pedigree							
Contract Statem't							
Corn							
Cotton							
Dairy							
Dry Goods							
Flax							
Fruits and Berries							
Garden							
Groceries							
Hay							
Hemp							
Hog							
Hog Pedigree							
Horse, Mule							
Horse Pedigree							
Implements							
Oats							
Poultry							
Real Est Bot							

Page

Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts.	Ex-pense. Dolls.	Ex-pense. Cts.	For Year ending Dec. 31, 18.....
Real Est Sold							
Real Est Rented							
Repairs							
Rice							
Rye							
Sheep							
Sheep Pedigree							
Sugar Cane							
Timber							
Time and Labor							
Wheat							
Miscellaneous							

YEARLY BALANCE SHEET.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

age	Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts	Ex-pense. Dolls.	Ex-pense. Cts.	For Year ending Dec. 31, 18.....
	Barley							
	Bills Payable							
	Bills Receivable							
	Broom Corn							
	Buckwheat							
	Castor Beans							
	Cattle							
	Cattle Pedigree							
	Contract Statem't							
	Corn							
	Cotton							
	Dairy							
	Dry Goods							
	Flax							
	Fruits and Berries							
	Garden							
	Groceries							
	Hay							
	Hemp							
	Hog							
	Hog Pedigree							
	Horse, Mule							
	Horse Pedigree							
	Implements							
	Oats							
	Poultry							
	Real Est Bot							

Page	Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts.	Ex-pense. Dolls.	Ex-pense. Cts.	For Year ending Dec. 31, 18 ...
	Real Est Sold							
	Real Est Rented							
	Repairs							
	Rice							
	Rye							
	Sheep							
	Sheep Pedigree							
	Sugar Cane							
	Timber							
	Time and Labor							
	Wheat							
	Miscellaneous							

YEARLY BALANCE SHEET.

ROHDE & HENNEQUIN, CIVIL ENGINEERS AND SURVEYORS, CHICAGO.

Received on Account of	Amount. Dolls.	Cts	Balance on Hand. Dolls	Cts.	Ex-pense. Dolls.	Cts.	For Year ending Dec. 31, 18.....
Barley							
Bills Payable							
Bills Receivable							
Broom Corn							
Buckwheat							
Castor Beans							
Cattle							
Cattle Pedigree							
Contract Statem't							
Corn							
Cotton							
Dairy							
Dry Goods							
Flax							
Fruits and Berries							
Garden							
Groceries							
Hay							
Hemp							
Hog							
Hog Pedigree							
Horse, Mule							
Horse Pedigree							
Implements							
Oats							
Poultry							
Real Est Bot							

Page

Received on Account of	Amount. Dolls.	Cts	Balance on Hand. Dolls	Cts.	Ex-pense. Dolls.	Cts.	For Year ending Dec. 31, 18.....
Real Est Sold							
Real Est Rented							
Repairs							
Rice							
Rye							
Sheep							
Sheep Pedigree							
Sugar Cane							
Timber							
Time and Labor							
Wheat							
Miscellaneous							

YEARLY BALANCE SHEET.

DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

Page	Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts	Expense. Dolls.	Expense. Cts.	For Year ending Dec. 31, 18.....
	Barley							
	Bills Payable							
	Bills Receivable							
	Broom Corn							
	Buckwheat							
	Castor Beans							
	Cattle							
	Cattle Pedigree							
	Contract Statem't							
	Corn							
	Cotton							
	Dairy							
	Dry Goods							
	Flax							
	Fruits and Berries							
	Garden							
	Groceries							
	Hay							
	Hemp							
	Hog							
	Hog Pedigree							
	Horse, Mule							
	Horse Pedigree							
	Implements							
	Oats							
	Poultry							
	Real Est Bot							

Page	Received on Account of	Amount. Dolls.	Amount. Cts	Balance on Hand. Dolls	Balance on Hand. Cts	Expense. Dolls.	Expense. Cts.	For Year ending Dec. 31, 18.....
	Real Est Sold							
	Real Est Rented							
	Repairs							
	Rice							
	Rye							
	Sheep							
	Sheep Pedigree							
	Sugar Cane							
	Timber							
	Time and Labor							
	Wheat							
	Miscellaneous							

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DONOHUE & HENNEBERRY, PRINTERS, ENGRAVERS AND BINDERS, CHICAGO.

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Flax							
Fruits and Berries							
Garden							
Groceries							
Hay							
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Hog							
Hog Pedigree							
Horse, Mule							
Horse Pedigree							
Implements							
Oats							
Poultry							
Real Est Bot							

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Real Est Sold							
Real Est Rented							
Repairs							
Rice							
Rye							
Sheep							
Sheep Pedigree							
Sugar Cane							
Timber							
Time and Labor							
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	Time and Labor							
	Wheat							
	Miscellaneous							

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FLA.
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